AUTOMATED PRODUCTION CONTROL SYSTEM

[A CASE STUDY OF AMIN LIMITED ELEYELE IBADAN]

PROJECT SUBMITTED

BY

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TO

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DEDICATION

To God Almighty, the Alpha and omega who knows the end from the beginning and to my invaluable mother and brothers Mrs. L.M. Oladokun, Mr. Folaranmi and Mr. Wale Folaranmi as well as my Sister Bisi Odeniran: dedicating this work to them is small recompense for all they have done.

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To all others, too numerous to mention, I cannot say how much I'm indebted.

I THANK YOU ALL.

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CERTIFICATION

This is to certify that this project was carried out by OLADOKUN

OLUSOLA CHARLES of the dept of MATH/STATISTICS/COMP.SCIENCE, Federal

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_____   _____
PRINCE R. BADMUS   DATE
PROJECT SUPERVISOR

_____   _____
PROFF. K.R. ADEBOYE   DATE
H.O.D.

_____   _____
EXTERNAL EXAMINER   DATE

ABSTRACT

This project is on the computerization of production control and salesanalysis of ASSOCIATED MATCH INDUSTRY, IBADAN. The proposed system is designed to work on any IBM compatible. The language used for the project is D Base 4.

This project is designed to help solve problems within the existing system. The project is divided into 5 parts / chapters. Chapters one and two are the introductory parts and investigation into the existing manual system.

Chapter three is the output and input specification for the proposed system. Chapter four and five contains the systems implementation as well as the program listings and the output to be generated by the proposed system.

The proposed system, if well studied and implemented will help solve most of the problems of the existing system.

The system is flexible and can be modified to suit production organisation.

CHAPTER ONE

1.1   GENERAL INTRODUCTION

Life is a dynamic process so to say. However, goods & services are being consumed in order to fulfil this dynamism of life. Therefore, how these goods & services come into being is the question that we suppose to provide an answer for.

In this case, the principles of producing theses goods& services must be a serious concern of top management. And this is usually relevant in the care of any business that produces or distributes physical goods. For such business, the ability to attain performance goals in the required time or with the required flexibility. I any manufacturing enterprises ability to produce physically has to be taken into account when setting business objections.

Any production system requires an effective management. This is mainly because production system is a process of planning, taking decision and, reacting to changes.

Moreover, changes might occur in demand, inventory schedule, quality levels, production management in the management of any production sys tem, regardless of the type, in other words manufacturing & non manufactur ing sectors are involved in modern production management. Management's job is job is always to push back the limitation set by the hard reality of physical production facts.

Before, one could really understand the words *"Production control"* as a term or system one, we need to define and get a clear meaning of each word that constitute the term or system.

Production :- is the ability to convert raw materials to something useful or end products. While the system of production, that is, converting raw materials to end product as earlier said, while the word *control* can be defined as the assumption of the responsibility for leadership of a group towards the achievement of its objectives. The function of the control in carrying out its leadership responsibility are planning ,organising, directing and controlling.

Controlling the production process requires that, these various elements of the production system be properly allocated, coordinated and controlled to ensure maximum efficiency.

1.2   Production Control

INTRODUCTION

Production control is concerned with managing the daily business of getting and completing orders in a manufacturing organisation : as such it extends well beyond the limits of a production control department.

The job of planning and controlling production cannot be delegated completely to a manager at the middle level of an organisation. Some of the decisions which he must take will affect very senior managers in marketing, production and finance. They must understand the subject and be prepared to take their part in making important decisions in production control.

This project is brief introduction to production control and sets out what the manager should know about the subject. Although it is written in terms of a manufacturing concern, much of it can be adapted to the needs of the services business.

In industry some variation in the quality of a manufactured product is inevitable. Hence, production quality control is one of the most economically useful in the application of sampling and significant theories to the industrial field.

As we are all aware that in industry we have repetitive principle of turning out a large number of presumably" Identical products", there is no two piece following one another on the same machine are identical (in actual sense). .Due to the inevitability of the occurrence of variations the producer set standard of quality to which product must conform if they are to be accepted satisfactory for use. This standard specify not only a basic norm but also the upper and lower within which a product will be considered satisfactory. Where mass production is involved and 100% inspection is not feasible, statistical quality control can be apply in monitoring the quality of the product. This statistical quality control has 2 aspect namely:

(1) Process control.

(2) Product or lot control (acceptance inspection)

The aim of the first is to evaluate the performance of each individual process and thus to foasec the variability in the quality of output of each process in the immediate future.

The aim of second is to see that a lot put in the market does not contain a large number of satisfactory unit.

1.3   HISTORICAL BACKGROUND

Associated match industries (Nig.) Limited (AMIN) was incorporated in May 1988 with headquarters in Ibadan.

It is the result of the merger of the underlisted

(a) United Match Company Limited, Ilorin .   *Incorporated in 1961*

(b) Star Match Company Limited, Ikeja.   *Incorporated in 1965*

(c) Niger Match Company Limited, Ibadan.   *Incorporated in 1970*

(d) Safa Splints Company Industry, Kaduna.   *Incorporated in 1973*

(e) Kaduna Match Company Limited, Kaduna.   *Incorporated in 1978*

and

(f) Niger Match Company Limited, Port Harcourt, established in 1978.

Worthy of mention is the fact that United Match Company Industry was the match manufacturing company in Nigeria. Safa splints Company was established to produce Splints from local wood and thereby reduce dependence on imports. In line with government policy of backward integration, the company has established a large timber plantation at ibadan to meet future wood requirements.

Associated Match Industries (Nig) Limited (AMIN) is a member of a highly diversified business organisation that operates under the corporate name of Modandola Group, with the head office at 15, Greek Road, Apapa, Lagos.

The company's brand which are household name include:

(1) The Crown

(2) Three Dice

(3) Three Roses

(4) Three Stars

(5) The Palm Tree

(6) The Rider

(7) and The Cock

Through their overseas technical associates, Swedish Match, they have access to the latest technology in match manufacture. Their products are of the highest quality standard and have won the Nigeria Industrial Standard Gold and Silver Award on several occasions

1.4   PRODUCTION CONTROL FUNCTION

Production Control is concerned with the daily business of getting and completing orders in a manufacturing organisation while stock control is a subset of production control.

1.5   SYSTEM AIMS AND OBJECTIVES

In manufacturing, most people think the objectives of production control are :-

• to enable good delivery dates to be offered

• to get Customers orders completed on time

• to make good use of plant and manpower

• to avoid having two much stock or work-in-progress

• to avoid a succession of production delays and changes which waste time and lower morale.

These can be summed up as :

• to enable good delivery dates to be offered

• to get Customer's order completed on time

Consistent with keeping stocks and work-in-progress down and the utilisation of plant and manpower up.

1.6   ADVANTAGES OF THE PROPOSED SYSTEM

The benefits in adopting a computerised bases production control system is by far better and out weight the formal manual processing of the company and they are enumerated below ;

(a) It will generate and result command that will enable orders to be made from a central point.

(b) Computer can process at faster rate and also effectiveness, accuracy, timely, efficient, reliable and easy storage and retrieval of documents if need be is an edge over the manual method.

(c) With this system, which customer's orders to be completed or how to make good use of plant and manpower then becomes a matter of the computer to detect and determine.

(d) Lastly, no computer system can get bored due to a repetitive job processing or get tired from working nonstop if it is in its good environment.

(e) It will process the mass of facts and figures arising and to increase information by

automatic control in production processes, experience has shown that fears of redundancy are to a large extent unfounded.

1.7   SCOPE

Investigation showed that there are no aspect of the production control of the study that has been computerised.

Therefore, the proposed system is going to cover the following ;-

• List Df work or job to be done within a period of time *(OUTSTANDING JOBS)*

• Prepare a quotation sheet for a project or job.

• Payment analysis for the management of terms of total cost and down payment received.

• List of products produced by the company and their standard price.

• Analysis of a particular project showing both the total cost and the payment made instrumental.

ORGANISATION STRUCTURE OF AMIN LIMITED

```
                        ┌──────────────┐
                        │   MANAGING   │
                        │   DIRECTOR   │
                        └──────┬───────┘
                               │
                        ┌──────┴───────┐
                        │   GENERAL    │
                        │   MANAGER    │
                        └──────┬───────┘
          ┌───────────┬────────┴────────┬──────────────────┐
   ┌──────┴─────┐ ┌───┴──────┐ ┌─────────┴──┐ ┌──────┴──────┐
   │   STORE    │ │PRODUCTION│ │   SALES    │ │ ACCOUNTANT  │
   │  MANAGER   │ │ MANAGER  │ │  MANAGER   │ │             │
   └──────┬─────┘ └───┬──────┘ └─────┬──────┘ └──────┬──────┘
   ┌──────┴─────┐     │              │        ┌──────┴──────┐
   │   STORE    │     │              │        │  PAYROLL    │
   │   KEEPER   │     │              │        │  OFFICER    │
   └──────┬─────┘     │              │        └──────┬──────┘
    ┌─────┴─────┐     │              │         ┌─────┴─────┐
 ┌──┴────┐ ┌────┴───┐ │         ┌────┴────┐ ┌──┴────┐ ┌────┴───┐
 │WORKERS│ │WORKERS │ │         │         │ │CASHIER│ │ BOOK   │
 └───────┘ └────────┘ │         │         │ │       │ │ KEEPER │
                      │    ┌────┴───┐ ┌───┴────┐ └───────┘ └────────┘
                      │    │ SALES  │ │ SALES  │
                      │    │  MAN   │ │  MAN   │
                      │    └────────┘ └────────┘
              ┌───────┼───────┐
           ┌──┴────┐ ┌┴──────┐ ┌──────┐
           │WORKERS│ │WORKERS│ │WORKERS│
           └───────┘ └───────┘ └──────┘
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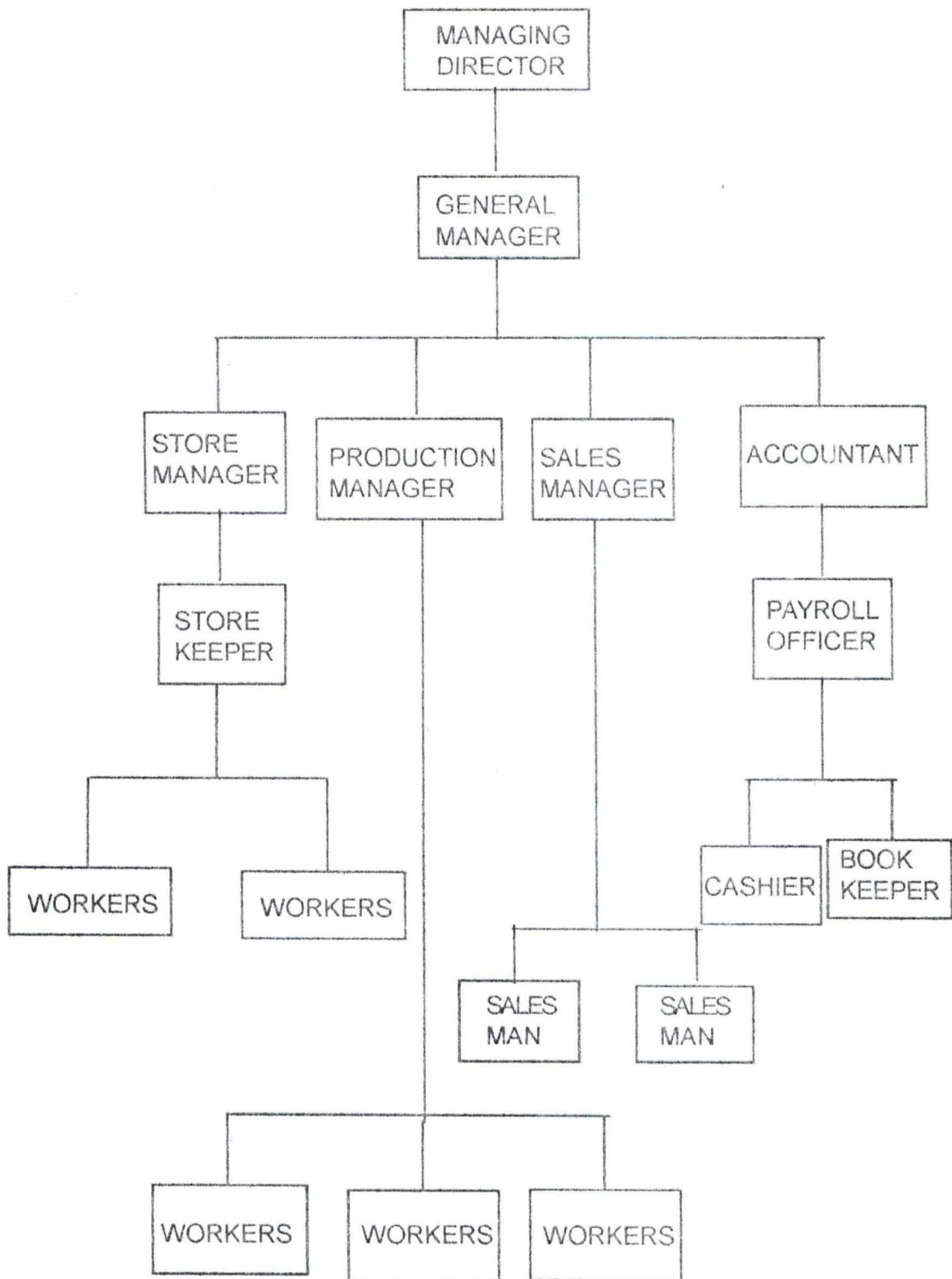
CHAPTER 2

LITERATURE REVIEW

General outline :-

Since the evolution of the production management in the 19th century, there were lot of contributions made towards the development and case of operation of management of production system.

There were many attempt of series of computer basic program that had been developed such as the application of linear programming to the present scheduling and machine loading problems of production control. Example is the Harvard project manager SPC which is very good for project scheduling use either critical path method (CPM) or PRRT in determining the shortest path of production.

Investigation, made it clear that there is no any write-up of project, system design or feasibility studies of automated production control attempted by any student for the past years.

2.2   TYPE OF PRODUCTION SYSTEM

Though, there are various type of production system which often determines the mode of production planning and control efforts. There are three major production system in use; *the continuous production system, the repetitive production system and the non-continuous or intermittent production system:-*

(i) The continuous production system :- is characterised by a large volume of production of standardize product, machine used in production are arranged in sequential pattern as dictated by the nature of the production.

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(ii) the Repetitive production system:- is characterised by situation in which the product or products are produced a lots, with each item produced passing through the same sequence of operation.

(iii) Intermittent or non-continuous production system:- unlike the continuous system which has a single production sequence per product it is characerised by wide variation in the manufacturing-sequence required by the products.

The mode of operation of AMIN fall under this system / can be said to be intermittent production system in which there are greater variety of products being handled. There is no single sequence pattern or process of operation. The production is characterised by the small lot which are usually custom made / produced according to customer's specification.

2.3   CONTROL OF PRODUCTION SYSTEM

The control of production system is a very complex and tedious task been faced by the manager(s) of various production organisation. There are various categories of just involved for the successful operation of the production organisation . These are broadly categorised into four (4) as follows :-

(i) The Exchange Relationship task :- which involves the purchasing of the factors imputs such as raw material, human resources. Machine and factor or land, finding a way of marketing the products(s) produced and responding to competition from other production company of same product. It also involves gaining command over scarce resources.

(ii) Political administration task which involves dealing with the public bureaucracy and government department in order to obtain concessions, licenses, taxes loca-

tion approvals etc.. Managing human relationship within the firm, managing customer and supplier of raw materials relationship responsibility for the material management and for the external advancement of the firm in all its aspects.

(iii) Financial and Production Control Task which involves obtaining adequate financing, controlling costs, co-ordinating input flows with order and general facility maintenance. It also includes supervision.

(iv) Technology Adaption Task :- when involves the acquiring and overseeing assembling of the factors, industrial engineering (that is the input with a given produc tion process), upgrading processes and production quality and instruction of new production techniques (that is technical innovation).

.4   PERSONNEL INVOLVED IN OPERATION

In view of the organisation structure of the case study, there are some personnel that are directly involved in the operation of the production, from the ordering stage to the completion of the product ordered by the customer.

MANAGING DIRECTOR

The Managing Director is the head of the company, in this case of AMIN Limited, he is among the owner of the business. He oversees the whole operation, direct all other employees, see to it that there is good relation between the organisation and customer, he also participate in the decision making for the organisation.

THE GENERAL MANAGER

He is directly responsible to the Managing Director, he coordinate the operation of all other departments in the organisation and give report back to the M.D.

PRODUCTION MANAGER

The Production Manager handles all the production as directed by the sales department, he is directly responsible to the General Manager and at the same time, he works hand in hand with the Sales Manager and other departments concern. He also directs all other sectional head in the produc-tion sectors and see to the proper production system.

SALES MANAGER

The sales manager is the head of the sales department. He directs other sales officers in the department and improves the department relationship with the customer and make sure that there is sales for the organisation.

2.5   PRODUCTION CONTROL AND COMPUTER

The computer is able to store enormous quantity of information and carry calculation very rapidly, in such a time that information is available early enough to permit actors to be taken.

Furthermore, the computer will tirelessly repent calculation for as long as it is required to do so. It will not, if properly instructed, generate mistakes either through fatigue or by personal inaccuracy.

Computer can be programmed to help plan how to produce goods. This will be the management to meet customer's request.

For a given batch of production to take place the production controller has to decide what and what is to be produced. This information can be obtained by the production controller from available statistics of store record.

Therefore, it is very necessary to decide how these records are kept and where to store them. This information is essential to the controller because he has to know the total number of stock in the store.

2.6   FUNCTION OF THE STORE

One of the principal fuctions of the store is receiving and storing in good order and condition all goods including raw materials, purchased parts and components and partly manufactured items.

The store never issue materials out without a duly signed requisition by the authorised person.

It is frequently convenient for the store to assemble together all the materials required for a particular work order.

A knowledge of what materials is available is essential to running of any production company. The store keep the products, record, raw materials and the machine as may be required by the management.

Store needs to know the quantity of stock available in the store, this is done by what is called stock taking. Stock needs to be correctly recorded not only in order that the factory may be run effectively but also in order that the trading result shall be calcuated accurately.

Stock taking is necessary because when goods are continually being moved in and out of stock, it is inevitable that in accuracies creep in, and though a control account eld might indicate some errors. To reduce this problem stocktaking, stock-check or inventory which is the carrying out of a physical count of stock and the result checked

against entries in stock record card. Seven different types of matches are produced.

They are Crown, Cock, Rider, Bicycle, Palm tree, 3 and Dice.

2.7   REPORTS GENERATED BY THE EXISTING SYSTEM

Sales report is one of the reports generated by the existing system. The sales

report is simply the sum total amount of all goods that were sold within a particular

period of time.

STORE REPORT

The sale report deals with two type of report i.e. that of raw materials and prod-

ucts produced from the factory. The raw materials report deals with the total number

of every raw materials in store. How they are released to the factory while the prod-

uct report deals with the total number of the products available in the store.

PURCHASES REPORT

The purchases report deals with the total amount of goods, raw materials

bought for the smooth operation of the company.

PRODUCTION REPORT

The production reports about the total number of raw materials released from

the store, the specification about the product given to the production department by

the management and the total number of product produced from the raw materials.

2.8   PROBLEM OF THE EXISTING SYSTEM

There are lot of problems faced by the present system, some of which are high-

lighted below :-

1. TIME WASTAGE

A lot of time is wasted, searching for a particular Customer's file for retrieval of

information, due to the manual method of filling the information or data about each job.

2. BAD INFORMATION STORAGE AND RETRIEVAL

The present system of operation suffer from bad information storage and retrieval. There are mis-placement of forms or letter issued or written to the customer in terms of quotation. Keeping their record requires the use of bulky stock cards. Each individual item record is kept by their physical stock itself by attaching bincards to the bin on the each containing the materials using a separate card for each item of stock. The bincard gives a description of the item including its numbers the unit of issues, the quantity re ceived and balance remaining in the bin. This leads to wastage of spaces since bulky bincards are used.

3. DIFFICULT TO EXECUTE

It is not easy for the management to completely monitor for the activities involved in the operation of products. Since there are lot of stages or procedures that have to be observed before a product can be produced.

4. INEFFICIENCY

With all the problem faced by the present system, one can easily say that, the system if grossly inefficient compare to computerised system to be discussed later.

CHAPTER THREE

SYSTEM DESIGN

The new system shall be designed such that the management of the production system will be made easier and reports are generated efficiently in accordance with the role of the management of the organisation.

The design of an Automated production Control System shall be discussed under two major headings.

- Output design

- Input design

Output design :-

This is the expected and product (result) of the system on other words, the output design can be described as the report to be generated by the system. This is important because it will be used for the underlisted.

(i) In designing the mode of input data

(ii) It is the information used by the management in decision making.

There are five reports to be generated by the system. They are :-

- CUSTOMERS INVOICE LIST

- CUSTOMERS ACCOUNT

- STOCK FILE

- PRODUCTION AUDIT

- OUTSTANDING ORDER

(i) Outstanding job:- this is a list of job to be got done within a specified period of time.

It is important to know the amount of work at hand before giving delivery data

(ii) Quotation sheet :- Instead of using the manual method of typing the quotation of a

projects.

The system can automatically print out the quotation sheet any time. Quotation sheet

of a project can also be use to retrieved anytime.

(iii) Payment analysis :- The payment analysis report make the management to be

aware of the total amount of money to be claimed from the customers. It displays or

shows the total cost of projects, the total part payment made by the customer so far

and the balance yet to be paid by the customer.

(iv) Product Listing :- This is the list of products produced by the company and their

various standard prices. And also the date last updated was printed.

(v) Project Analysis :- This is different from the payment analysis in the sense that, it

prints or displays the breakdown of payment made so far by a customer on a particular

project and the date of payment. It also shows the total cost of project as reflected on

the quotation sheet and display the balance yet to be paid.

```
OUTPUT FILE            OUTPUT
FILE NAME          CUSTOMERS INVOICE LIST
OUTPUT MEDIUM  LINE PRINTER
                   TO SHOW THE PARTICULARS OF DIFFERENT
                   SALES TRANSACTION  FOR A GIVEN CUSTOMER
STORAGE MEDIUM       FLOPPY DISK
RECORD LENGTH 55 CHARACTERS
```

FIELD NO	FIELD NAME	POSITION FROM	TO	TOTAL	FORMAT	DATA TYPE	EXAMPLE
1	INVOICE	2	9	8	X(8)	CHAR.	INV 017
2	DESCR.	12	22	11	X(11)	"	RIDER
3	DATE	24	31	8	99/99/99	DATE	01/02/97
4	QTY	34	41	8	9(8)	NUM	25 Cartons
5	PRICE	47	56	10	9(8).99	NUM	N2310.00
6	AMOUNT	59	68	10	9(8).99	NUM	N7354.00

Example

INVOICE	DESCRIPTION OF GOOD	DATE	QUANTITY	PRICE	AMOUNT
INV 017	xxxxxxxxx	xx/xx/xx	9999.999	999999.99	999,999.00

3.2 INPUT DESIGN

Having established the output required by the system, the design of input file was considered.

3.21 INPUT FORMS

One of the reason for a computerised system is to achieve a great deal of fastness in data processing. This can only be achieved through a well planned computer system. For this reason, necessary input forms design for data entry operation is very significant. This input forms are designed to accept data as input to the system. There are five input form designed for the system and information on each are stored in a separate file.

They are :-

• ORDER. DBF

• PROD. DBF

• GDAILY .DBF

• ACCT .DBF

• SALES. DBF

• TEMP. DBF

3.22 INPUT DEVICE TO BE USED

The data items on the file will be better accepted into the system through the screen and keyboard of the visual display unit (VDU) . This implies that the addition or deletion of record into or from the system file will be an interactive process. So the input medium to be used would be on-line terminal system.

INPUT RECORD SPECIFICATION

INPUT FILE :   INPUT I

RECORD NAME :   ORDER DBF

INPUT MEDIUM :   KEYBOARD

STORAGE MEDIUM: FLOPPY DISK

PURPOSE :   SERVE AS INPUT REQUIREMENT
                       FOR PROCESSING SALES
                       ORDER RECEIVED FROM
                       CUSTOMERS FOR PLANNING
                       QUANTITY TO PRODUCE.

RECORD LENGHT :64BYTES

FILE ORGANISATION : RANDOM

FILE NO	FIELD NAME	POSITION FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	ORDNO	1	6	6	999999	NUMERA	0123478
2	ORDATE	7	14	8	99/99/99	DATE	04/05/97
3	DDUE	15	22	8	99/99/99	DATE	07/05/97
4	COSNAN	23	48	26	X(25)	CHAR.	MUYIWA&SON
5	DESER	49	59	11	X(11)	CHAR.	BIG SIZE
6	QTY	60	64	5	9999	NUM.	1000 CARTONS

OUTPUT FILE
OUTPUT FILE NAME   OUTPUT 2
OUTPUT MEDIUM   CUSTOMERS ACCOUNT
PURPOSE   LINE PRINTER / SCREEN
RECORD LENGHT   To show customers statement of account with the company
    57 CHARACTERS

FILE NO	FIELD NAME	POSITION FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	CUST NO	2	7	6	X(6)	CHAR.	00002
2	NAME	14	38	25	X(25)	CHAR.	SEUN DADA
3	DATE	40	47	8	99/99/99	DATE	27/03/97
4	ACCT. NO	40	47	8	X(8)	CHAR.	ACCT 102
5	AMOUNT	50	57	8	X(8)	NUM.	N2750 :00

EXAMPLE

CUSTOMER NO	NAME	DATE	ACCOUNT NO	AMOUNT
xxxxxxxxxx	xxxxxxxxxx	xx/xx/xx	xxxxxxxx	99,999.99

OUTPUT FILE
OUTPUT FILE NAME   OUTPUT 3
STORAGE MEDIUM   STOCK FILE
RECORD LENGHT   FLOPPY DISK
PURPOSE   46 CHARACTERS
OUTPUT MEDIUM   TO PRINT DAILY MOVEMENTS OF PRODUCTS
    LINE PRINTER

FILE NO	FIELD NAME	POSITION FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	ITEM	1	5	15	X(15)	CHAR.	SMALL SIZE
2	YM.A/G	18	24	7	9(7)	NUM.	20 CARTONS
3	PRODU.	32	38	7	9(7)	NUM.	30 CARTONS
4	SALES	45	51	7	9(7)	NUM.	N845:00
5	RETURNS	58	64	7	9(7)	NUM.	10 CARTONS
6	STOCK	71	77	7	9(7)	NUM.	50 CARTONS

Example :

ITEM	STOCK A/G	PRODUCTION	SALES	RETURNS	STOCK
xxxxxxxxxxxxx	99999999	99999999	999999	9999999	9999999

```
OUTPUT FILE                       OUTPUT 4
NAME OF FILE                      PRODUCTION AUDIT
OUTPUT MEDIUM                     LINE PRINTER
PURPOSE                           TO SHOW THE EXPECTED MINIMUM OF
                                  PRODUCTS TO BE DERIVED FROM A GIVEN
                                  INPUT RAW MATERIAL. IT IS USED BY COM-
                                  PARING WITH STORE REPORT
RECORD LENGHT                     45 CHARACTERS
STORAGE MEDIUM                    HARD COPY / PRINTED COPY
```

		POSITION					
FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	TYPE	5	29	25	X(25)	CHAR.	SMALL (CROWN)
2	QTY.PR	31	40	10	9(10)	NUM.	20 CROWN
3	EXP.OUT	44	53	10	9(10)	NUM.	50 CARTONS

```
Example :
TYPE OF PRODUCT                   QUANTITY  PRODUCED         EXPECTED PRODUCT
XXXXXXXXXXXXXX                    9999999999999             99999999999999OUTPUT
FILE                 OUTPUT 5
OUTPUT FILE NAME                  OUTSTANDING ORDER
OUTPUT MEDIUM                     LINE PRINTER
PURPOSE                           TO SHOW REPORT OF COMPUTED TOTAL OUTSTANDING
                                  ORDER
RECORD LENGHT                     35 CHARACTERS
OUTPUT MEDIUM                     FLOPPY DISK
```

		LOCATION					
FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	PRODUCT	7	31	25	X(25)	CHAR.	SMALL SIZE
2	QTY DEMAND	35	44	70	9(10)	NUM.	15000 CARTONS

```
Example :
TYPE OF PRODUCT                              QUANTITY  DEMANDED
XXXXXXXXXXXXXXXXXXXXXX                        99999999999999999999

INPUT FILE                        INPUT 2
RECORD NAME                       PROD. DBF
INPUT MEDIUM                      KEYBOARD
STORAGE MEDIUM                    FLOPPY DISK / HARDCOPY
FILE ORGANISATION                 SEQUENTIAL
PURPOSE                           INPUT FOR SHOWING THE TOTAL NUMBER AND PRICE OF
                                  PRODUCTS PRODUCE IN THE STORE
                                  ORDER
RECORD LENGHT                     64 BYTES
```

		POSITION					
FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	GREF	1	5	5	XXXXX	CHAR.	GRA174
2	GDESC	6	24	19	X(19)	CHAR.	SMALL SIZE
3	GUPRICE	25	32	8	9(6).99	NUM.	N26270:00
4	GQIS	33	38	6	9(6)	NUM.	32000 CARTONS
5	GDATE	39	47	8	99/99/99	DATE	07/03/

97POSITIONINPUT FILE   INPUT 4

RECORD NAME	ACCT. DBF
INPUT MEDIUM	KEYBOARD
STORAGE MEDIUM	FLOPPY DISK
FILE ORGANISATION	SEQUENTIAL
PURPOSE	SERVES AS CUSTOMER'S TRANSACTION FILE. IT IS ALSO USED FOR PRODUCING CUSTOMER'S INVOICE LIST.
RECORD LENGHT	59 BYTES

		LOCATION					
FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	ACNO	1	10	10	X(10)	CHAR.	ACC 12470
2	C-NO	11	16	6	X(6)	CHAR.	CNO 153
3	NAME	17	32	15	X(15)	NUM.	J.K & CO LTD
4	R-NO	33	42	10	X(10)	NUM.	RNO & 124
5	AMY	43	52	10	9(8).99	NUM.	N5247:00
6	TDATE	53	61	8	99/99/99	DATE	01/03/97INPUT

FILE   INPUT 5

RECORD NAME	SALES DBF
INPUT MEDIUM	KEYBOARD
STORAGE MEDIUM	FLOPPY DISK / HARD COPY
FILE ORGANISATION	RANDOM
PURPOSE	SERVES AS INPUT FOR PRODUCING ALL INFORMATION PERTAINING TO SALES TRANSACTION.
RECORD LENGHT	92 BYTES POSITION

FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	INV	1	8	8	X(8)	CHAR.	ABD 0124
2	GREF	9	13	5	X(5)	CHAR.	RF10123
3	ADDR	14	34	21	X(21)	CHAR.	20 Sabo st., Lagos
4	AMT	35	44	10	9(8).99	NUM.	N3000:00
5	TDATE	45	52	8	99/99/99	DATE	07/01/91
6	CACCTNO	53	62	10	X(10)	CHAR.	ACT 1032
7	R-NO	63	72	10	X(10)	CHAR.	RNO124
8	NAME	73	92	20	X(20)	CHAR.	ADE MASK EMT

ACCOUNT FORM

4

<div align="center">

AMIN LTD,
ELEYELE INDUSTRIAL LAYOUT
P.O.BOX 1499, IB. TEL : 412248

</div>

CUSTOMERS NAME	
CUSTOMERS CODE	
ACCOUNT NUMBER	
RECEIPT NUMBER	
AMOUNT	
TRANSACTION	

5

PRODUCT FORM

<div align="center">

AMIN LTD
ELEYELE INDUSTRIAL LAYOUT, IB.
P.O.BOX 1499, IB. TEL : 412248

</div>

PRODUCT CODE	PRODUCT DESCRIPTION	PRICE	GOODS IN STOCK

INPUT FILE   INPUT 6
RECORD NAME   TEMP. DBF
INPUT MEDIUM   KEYBOARD
PURPOSE   IT IS USED FOR KNOWING THE TOTAL NO OF
PRODUCTS TO BE   DERIVED FROM A GIVEN
QUANTITY OF RAW MATERIALS.
RECORD LENGHT   19 BYTES

                        POSITION

FILE NO	FIELD NAME	FROM	TO	TOTAL	FORMAT TYPE	DATA TYPE	EXAMPLE
1	TYPE	1	15	15	X(15)	CHAR.	3 DICE
2	QTY	16	19	4	9999	NUM.	300

1   INPUT FORM DESIGN

| NAME AND ADDRESS CUSTOMER NO OF COMPANY NEEDING THE PRODUCT DELIVERY DATE | AMIN LTD

ELEYELE INDUSTRIAL LAYOUT, IBADAN

P.O.BOX 1499, IB. TEL:412248 | |

| PRODUCT CODE | DESCRIPTION | QUANTITY |

2   DAILY PRODUCTION FORM

AMIN LTD, ELEYELE INDUSTRIAL
LAYOUT, IBADAN.
P.O.BOX 1499, IB. TEL : 412248

PRODUCT DESCRIPTION   QUANTITY PRODUCED

3   PRODUCTION AUDIT FORM

AMIN LTD, ELEYELE INDUSTRIAL LAYOUT,
IBADAN.P.O.BOX 1499, IBADAN. TEL ; 412248

SYSTEM FLOWCHART

```
                    ( START )
                       |
                       V
                 ┌──────────┐
                 │  INPUT   │
                 │  DATA    │
                 └──────────┘
                       |
                       V
                 ┌──────────┐
                 │  UPDATE  │
                 └──────────┘
                       |
                       V
                 ┌──────────┐
                 │ COMPUTE  │
                 │ ENTRIES OF│
                 │ QUOTATION │
                 └──────────┘
                       |
                       V
                  ╱─────────╲          ┌────────┐
                 ⟨  GENERAL  ⟩── N ──── ( STOP )
                  ╲  REPORT  ╱
                   ╲───────╱
                       |
                       V
                  ╱─────────────╲  PRINTER  ┌─────────┐        ┌────────┐
                 ⟨ OPTION SELECT ⟩──── N ───│  PRINT  │── N ── ( STOP )
                  ╲   REPORT    ╱            │ REPORT  │
                   ╲───────────╱            └─────────┘
            SCREEN     |
                       V
                 ┌──────────┐
                 │ DISPLAY  │
                 │ REPORT   │
                 └──────────┘
                       |
                       V
                   ( STOP )
```

-30-
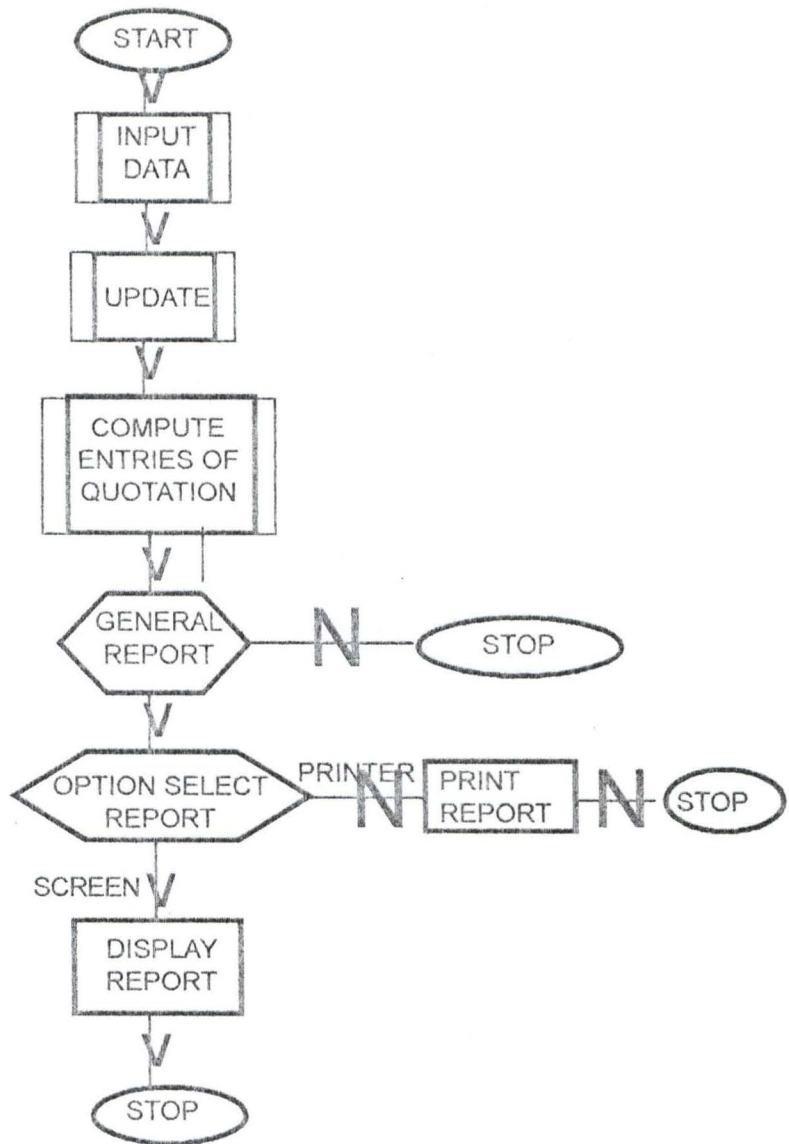
CHAPTER FOUR

IMPLEMENTATION AND SYSTEM DOCUMENTATION

The implementation phase of this projects covers the hardware and software requirement, files projects, files and procedure conversion activities, the program flowchart, program listing, the changing over method and the constraint of the system.

4.1   SYSTEM REQUIREMENT

The system requirement will be discussed under two broad-headings :-

• The software requirement

• the hardware requirement

4.1.1   THE SOFTWARE REQUIREMENT

This is the program support that enables the computer system to function effectively. They are of two types. The System Software and the Application Software.

The system software is a group of programs or software that control the necessary action of the hardware to work effectively. The system software required for this system could be any MS-Dos operating system of any version not less than version 3.30 but version 5 or 6 will be most suitable for the system.

The Application Software is a complete system for a particular application and is supplied by some outside body for a general use. The application software required is the DBASE IV package because the program is written in DBASE IV language

DBASE IV CHARACTERISTICS

Dbase IV is a very powerful database designed to manage information

efficiently. It is a tool which enable data to be organised and manipulated at high speed.

Basic data is input to a database which by means of powerful software produces an output or organised information.

4.12   HARDWARE REQUIREMENT

This is the machine itself. therefore, the intelligence combination of both the software and hardware is very important for proper functioning of the system.

The new system is designed to run on any micro computer, IBM or IBM compatible, using the ordinary typewriter like keyboard as input device.

No special keyboard is required since there is no special feature type used in the system, hence any keyboard will surely meet the requirement of capturing data into the system.

The display device can be either Monochrome / color monitor (VGA or CGA) according to user desire for purpose of error checking or error correction.

The processor type must be at least 80286 processor or latest microprocessor 386 or 486 with minimum of 1m byte RAM and maximum of 20m byte hard disk.

The auxiliary storage needed is the floppy diskette which serves as both input or output unit. It can also be used for backing storage or back up of data.

Information can also be printed out with moderately speed line printer.

4.2   CHANGE OVER

When a new system is fully tested and proved, change over from the old to the new is possible. this can be accomplished in one of three ways :-

• Direct change over

• Parallel running

• Pilot operation

4.21 **Direct change over** :- Implies the introduction of a completely new system with out any references to any previous similar systems which may exist. The method is normally adopted only when there is sufficient similarities between the old and new systems to make parallel or pilot run meaningful or sometimes when the entire staff required to supervise parallel runs are not available.

4.22 **Parallel running** :- means processing current data simultaneously by both old and new system in order to cross check the result. The objectives of parallel running must be closely defined and a time limit set.

The difficulties of crosschecking must also be born in mind if a difference is found, a decision must be made as to which system, the old or the new is wrong, there is a natural desire to condemn the new system and errors faster this spirit.

Another reason for using parallel running for implementation is as a stand-by in case the new system breaks down, as no irrecoverable position will be reached.

4.23 **Pilot Operation** :- Pilot operation is of two types

- Retrospective parallel running is a procedure wherein the new system is run using the input data from a previous period so that the result are known and can be checked.

- Staged change-over :- is a method in which the new system is introduced in a piecemeal fashion by phasing in different areas of work gradually. Out of the three change-over methods above, using parallel change-over is the best of all and can be

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used for the changing over but it also has its own constraint which should be left on stress.

- The lost of running the two system at a time

- The difficulties of running two systems and the possible effects on other computer works

4.3   *SYSTEM DOCUMENTATION*

The major objective of the new system is to be simple to use and highly interactive. In running the programs or package, a micro computer with hard disk with minimum of 20mb, either monochrome or color monitor will be required. Note that the programs cannot be run from floppy disk because of Dbase IV cannot go on floppy.

These steps will have to be followed :-

STEP I - Put on your PC with all its peripheral make sure that they are well connected.

STEP II - Change to the DBASE IV directory by typing C\ > cd dbase (press enter) and invoke dbase iv by typing C\DBASE >DBASE (press enter)

STEP III - (i) from the dos prompt in dbase iv, if your programs and the dbase files that hold the data (.dbf) are in a diskette, insert the diskette into drive A or B and type. . . .

• SET DEFA TO < drive name :> (press enter)

• SET DEFA TO A : (indicating drive A)

(ii) If your programs is on the same hardware and the same directory but same hard-disk, type

• RUN CD\ < directory path > (press enter)

STEP IV - Now invoke the main program by typing

• Do Prodsys

STEP V - when you want to exit from the programs, press A from the main menu

STEP VI - to get out of dbase and get to Dos environment from the dosprompt, type

• Quit

4.4 *PROGRAM OVERVIEW*

The production control package is designed to be menu driven and very easy to use. You press the appropriate key (either alphabet or numeric) that correspond to the operation you wish to perform.

When you invoke the package, it displays a screen showing the name of the package and the programmer's name and address, press any key to continue and get to the MAIN MENU.

MAIN MENU

The main menu is the opening to all other sub-menu. An help has been incorporated into the system and you can only access the help screen from the main menu by pressing H.

HELP MENU

It displays the key to be pressed in the main menu and highlight their corresponding function or the sub-menu that leads to. The help screen contains the following.

Press   A.................... to exit the program

             B.................... to get to the INPUT MENU (creating a new customer

             files, measurement specification, etc.)

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C................... to the UPDATE MENU (modification and   deleting of records)

D..................... REPORT MENU (generating the output)

E..................... utilities (indexing of files, backup etc.)

G..................... calculate item lost for a particular job using standard price of

product

INPUT MENU

From the MENU, it is possible to enter any information to a desire file. The input file has been divided into five (5) different file, each for storing different information about the project or job for easy accessibility and data independence.

In the input menu, use the numeric key from 0-5 to choose the desire operation or file you wish to punch into.

Press   0 - Exit and return to MAIN MENU

1 - Punch into the job file (job.dbf)

2 - Punch into the measurement file

3 - Punch into the quotation file

4 - Punch into the payment file

5 - Punch into the item produced file

Each takes you to a separate module, and the programs has been written in an interac tive way. Enter the appropriate information into the correct column. For each screen from designed to accept the information, project and item code is used to check against dupli cation of records into a particular file.

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UPDATE MENU

Modification (that is correction of mistakes) and deleting can only be done from the update menu with the help of a powerful editor.

Press   0 - Exit and return to update menu

           1 - Edit record from job file

           2 - Edit record from measurement file

           3 - Edit record from item file

           4 - Edit record from quotation file

           5 - Edit from payment file

to delete a record follow the same process as discussed above.

REPORT MENU

The report menu allows for generation of reports or output from the package. There are five reports that can be generated by this package and the function or usefulness of each has been explained in chapter 3 under the output specification.

From the report menu

Press 0 - Exit and return to main menu

           1 - Report on outstanding job

           2 - Printing or displaying of the quotation sheet

           3 - Report on payment Analysis

           4 - Report on existing product listing

           5 - Report on project analysis

ENQUIRIES

The enquiries is just a facilities incorporated into the package to allow users of the package to get some information that may be useful without going out of the package. Such as checking the system Time and Date, the Directory files (only database file), the disk space remain, numbers of records in each database file. Alphabets are used to choose the desire operation.

Press   X - Exit and return to MAIN MENU

         T - Check the system Time

         D - Check the system Date

         N - Number of record(s) in each database file

         R - Database file(s) in the directory

UTILITIES

The utilities in the package allow the user to index records in the database files using a particular key field, back-up of database files from the hard-disk to the floppy disk for data security and restore of the database files from the floppy disk back to the hard-disk when something to the database in the hard-disk.

From the utilities Menu

Press   0 - Exit and return to Main Menu

         1 - Back or database files

         2 - to index or Re-index records in database file

         3 - to restore database file

VALIDATION (CALCULATION OF QUOTATION VALUES)

The validation allows for the calculation of the cost of materials based on the standard price of products, the labour lost, overhead and transportation cost, that are needed for the preparation of the quotation sheet in the report. It write the amount calculated into the appropriate fields in appropriate files.

4.5 LIMITATION OF THE PACKAGE

There are some restriction in the use of the package

(1) In the input menu, entry of the measurement data for a particular projects or job, the maximum number of products that can be ordered by a customer are four (4).

(2) In the report Menu, preparation or printing of the quotation sheet, the introduction and the conclusion are fixed, there is no way the user can alter the sentences unless change from the programs

(3) The format of the reports generated are fixed where two separate job code should be given for each job, even where two separate job are ordered by same cus tomer. In other words, there is no merging of project because the customer is the same.

4.6 LIMITATION / CONSTRAINT OF THE NEW SYSTEM

Being a new system to be designed to suit the need of the case study, there are some difficulties encounter in getting some data needed from the authorities concern.

The executive of the company can also influenced and reduced the efficiency of the system. It is possible for the executive like managing director to change the procedure of operation. There are some products which are given to some customer free as a gift and the system does not cater for this.

Also, the stock of material used for the production of product is not included in the system and the accounting aspect of operation can also be incorporated for better efficiency and future development.

Note that the system is designed just to suit the need of the case study i.e. AMIN LIMITED in their mode of operation and not based on the general concept of production control.

Further research could be carried out for future development of the dissertation or system.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

SUMMARY :-

Computer has been very useful and helpful in various way to make daily activities of human endeavours easier and interesting. The computer is now being made use of, both in small and large scale organisation. It has also proved useful in solving individual problems.

The management of production system is not very tedious using manual mode of operation. Since it involves storing and retrieving some vital information about customer and product to be produced, processing of data for successful operation and in making decision by the management.

The ability of the computer to store vast amount of data and retrieve information for processing and thus produce high quality management information at very high speed and at low cost, has major impact upon the production management.

Application of computer based system or an Automated Production Control has helped in reducing the tedious mode of operation, increase the accuracy and efficiency of the system.

CONCLUSION

There must be some formal methods of planning and controlling production in any business; how complex and extensive these must be depends on the type of manufac ture. In general it is better to have methods which are simpler than those which seem to be needed. Most manufacturing concerns have played with complex methods which they have had to abandon subsequently through lack of staff.

In any event production control can only be successful when manager are determined to 'plan the work' and 'work the plan'.

RECOMMENDATION

From the series of investigation carried out, observation were made on different things which necessitate the recommendation of the efficient use of computer in the control of production system.

The following are strongly recommended:-

(1) The first skip is to decide what the delivery period should be for each type of product, so that the business will be competitive. The customers may want delivery "off the sheet" or they may accept delivery periods of years, in order to get exactly what they want. What they will accept depends on what competitors can do, and how much more they must pay to get better service. The second stage is to consider what must be done before the product can be despatched to the customer. This will include all stages of manufacture, buying raw materials and component, clerical procedures and possibly some design work. The time when each of these activities can be done must be accessed.

The third step is to reconcile the production stage chart with the acceptable delivery period. If the time headed for the whole sequence is less than the required period all the activities may take place between receipt of the customers order and despatch of the finished product. Usually the time required for completion of the activities is longer than the competitive delivery period and some of the activities must start before the customer's order is received.

In production each component has its own number and sequence of operation, it is clearly possible to control production without carefully planned procedures which need full-time staff to operate them.

Some paperwork is necessary for control. The paperwork must carry two kinds of information. There is constant information which is the same everytime a batch of a particular component is made. This include the sequence of operations, the machines on which they are close, the standard time per component on each operation, the type of material, the amount required per component and so on. there is variable information, which is different each time a component is ordered. This includes the batch quantity and the batch completion date. It is often convenient to have the constant information on some form of master from which it can be printed on to various documents, as shown below

The essential documents for production control usually need some of the constant information and all the variable information. This can be done by a printing process with line selection facility. Each batch of work may need:

- a progress card

- a material requisition

- a route card

- a job card and perhaps operator earning tickets for each operation

- some labels

- inspection documents

Some of the information depends on the batch size or the manufacturing plan.

When the documents have been printed.

- the total quantity of material required may be calculated and entered on the material requisition.

- the load in standard hours, or whatever unit is used, which each operation will present to the machine group on which it is done, may be added to the job card, to held in detailed load analysis

- the schedule date/week number for the operation may be added to the job card to help in sequencing or progressing the batch the plan.

It is reasonable and more advantageous to use computer for customers information storage and retrieval, since large volume of data can be accommodated by the computer with the use of external storage media and it is less subjectible to information loss.

The recommendation given above can only be successful when managers are determined to 'plane the work' and 'work the plan'.

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```
* program to Design Menu

* program :- SCO.PRG

CLEAR

SET COLOR TO GR+/N
@ 7 , 10 TO 19 , 70 DOUBLE
@ 6 , 17 TO 8 , 62
@ 18 , 22 TO 20 , 59

SET COLOR TO GB+/N

@ 7 , 18 SAY " AUTOMATED PRODUCTION CONTROL SYSTEM"
@ 10 , 23 SAY " COPYRIGHT @ SCO COPERATION SYSTEM"
@ 14 , 27 SAY " OLADOKUN OLUSOLA CHARLES"
@ 15 , 27 SAY " P.O.BOX 7551 MOKOLA"
@ 16 , 27 SAY " IBADAN. OYO STATE. NIGERIA"
@ 19 , 23 SAY  SPACE (36)
@ 23 , 27 SAY "PRESS ANY KEY TO CONTINUE"

WAIT

* program menu

CLEAR ALL

SET STATUS OFF

SET CONFIRM ON

SET TALK OFF

SET SCOREBOARD OFF

SET DATE BRITISH

SET COLOR TO W/N

DO SCO

DO WHILE .T.

STORE 0 TO asa
```

```
CLEAR
@ 0 , 0 TO 24 , 79 DOUBLE
@ 3, 15 TO 23 , 15
@ 3 , 55 TO 23 , 55
@ 2 , 1 TO 2 , 78
@ 2 , 20 TO 5 , 50

SET COLOR TO GR/N

@ 1 , 25 SAY " AMIN LIMITED"
@ 3 , 27 SAY " MAIN MENU"
@ 4 , 22 SAY " PRODUCTION CONTROL PROGRAM"
@ 7 , 20  TO 20 , 51

SET COLOR TO G/N

@ 5 , 57 SAY CDOW ( DATE ( ) ) "+ , "+ (DATE ( ) ) +" "+ LTRIM (STR(DAY (DATE ( )),

2))

@ 6 , 65 SAY STR (YEAR (DATE ( ) ), 4)

SET COLOR TO W/N

@ 9 , 22 SAY " A.... EXIT"
@ 11 , 22 SAY " B.... INPUT FORM MENU"
@ 12 , 22 SAY " C.... UPDATING MENU"
@ 13 , 22 SAY " D.... REPORT MENU"
@ 14 , 22 SAY " E..,. ENQUIRIES"
@ 15 , 22 SAY " F.... UTILITIES"
@ 16 , 22 SAY " G.... VALIDATION (QUOTATION)
@ 22 , 20 SAY " ENTER CHOICE OF OPERATION :-"

SET COLOR TO BG/N

@ 23 , 5 SAY "H.... HELP"

SET COLOR TO N/W

@ 23 , 50 SAY "0.... OLADOKUN O. CHARLES"

 SET COLOR TO G/N
```

```
i = " "

DO WHILE i = " "

i = INKEY ( )

@ 19 , 25 SAY TIME ( )

@ 22 , 49 SAY " "

IF UPPER (CHR (i) ) & "ABCDEFG"

        EXIT

END IF

i = " "

END DO

SET COLOR TO W/N

DO CASE

        CASE i = 65

        CLEAR

        EXIT

CASE i = 66

        DO INPMENU

CASE i = 67

        DO UPDATME

CASE i = 68

        DO REPORTM

CASE i = 69
```

```
        DO INFO

   CASE i = 70

        DO UTILITY

   CASE i = 71

        DO VALQUO

   CASE i = 72

      Do help menu

        ENDCASE

   END DO
```

* program for input menu of the production system

* program name :- INPMENU.PRG

```
DO WHILE .T.

STORE 0 TO as

SET COLOR TO G/N

@ 0 , 25 SAY "AMIN LIMITED"

SET COLOR TO B/N

@ 1,1 TO 1,79 DOUBLE
@ 3,20 TO 5,60

SET COLOR TO GR/N

@ 4,25 SAY "DATA INPUT MENU"
@ 7,20 TO 15,60 DOUBLE
```

```
SET COLOR TO GB/N

@ 9 , 25 SAY " 0 ....  Exit to MAIN MENU"
@ 10 , 25 SAY " 1 .... Create New Job File"
@ 11 , 25 SAY " 2 .... Measurement File"
@ 12 , 25 SAY " 3 .... Quotation File"
@ 13 , 25 SAY " 4 ..... Payment File"
@ 14 , 25 SAY " 5 .... Item Produced File"
@ 17 , 20 TO 19 , 45

SET COLOR TO W/N

@ 18 , 25 SAY " Enter Choice :- "Get as PICT "9" Range 0.5

MESSAGE " Choose from 0 - 5"

READ

DO CASE

        CASE as = 0

                EXIT

CASE AS = 1

        DO NEW JOB

CASE AS = 2

        DO MEASFORM

CASE AS = 3

        DO QUOFIL

CASE AS = 4

        DO PAYFIL

CASE AS = 5

        DO ITEMPROD
```

```
ENDCASE

END DO


* Program of Enter Data to job file for new Job

* File name :- NEWJOB.PRG

*

        DO WHILE .T.

            CLEAR

                STORE SPACE (25) To descrip, addre

        STORE SPACE (1) To das

        STORE date ( ) To dat 1, dat 2

        STORE SPACE (6) To code

SET COLOR TO G/N

@ 0 , 25 SAY 'AMIN LIMITED"

SET COLOR TO GR/N

@ 1 , 1 TO 1 , 79
@ 16 , 1 TO 16 , 79
@ 4 , 10 SAY "Code for the job :- " Get Code PICT" "xxxxxx"

READ
.
If Code =  " "

    EXIT

END IF

* This module test if the code is already in file

*
```

```
USE JOB

LOCATE FOR JCODE = CODE

IF FOUND ( )

        @ 21 , 20 SAY " Job code already in File"
        @ 23 , 20 SAY " Press Any Key to Continue"

        WAIT " "

        LOOP

        END IF

*


* This aspect capture the data for the new job

*


        @ 7 , 10 SAY " Customer Name :- "Get descrip PICT "xxxxxxxxxxxxxxxxx"
        @ 10 , 10 SAY "Address :- "Get addre  PICT " xxxxxxxxxxxxxxxxxxxxxxxxxx"
        @ 12 , 10 SAY " Ordered Date :- "Get dat 1 PICT "99/99/99"
        @ 14 , 10 SAY "Delivery Date :- 'Get dat 2 PICT " 99/99/99"
        @ 17 , 10 SAY "Save the information (Y/N) :- "Get das PICT " "

        READ

        IF UPPER (das) = "Y"

        *


        * Write the data into the File

*


        APPEND BLANK

        REPLACE JCODE WITH CODE, CUST _ NAME WITH DESCRIP

        REPLACE ADDRESS WITH ADDRE , DATE _ OR WITH DAT 1, DAT _

        COL WITH DAT 2
```

```
        END IF

END DO

* Program of capture the specification of the custmer's products

* File name :- MEASFORM . PRG

*

DO WHILE .T.

        CLEAR

                DECCEAE 1tco[4], qty y[4[, width[4[, height[4[, thf[4]

                STORE 0 TO qty y[1], qty y[2], qty y [3], qty y [4]

                STORE 0 TO widh[1], widh[2], widh [3], widh [4]

                STORE 0 TO heih[1], heih[2], heih [3], heih [4]

                STORE SPACE (20) TO NAME

                STORE SPACE (6) TO CODE , ITEMD

SET COLOR TO G/N

                @ 0 , 25 SAY 'AMIN LIMITED"

        SET COLOR TO GR/N

                @ 1 , 1 TO 1 , 79
                @ 2 , 15 SAY " MEASUREMENT ENTRY"
                @ 3 ,15 SAY "************* *****"
                @ 19, 1 TO 19 , 79
                @ 5 , 10 SAY "Code for the job :- "Get code PICT "xxxxxx"

                MESSAGE 'Enter the code given for the job"

                READ

                If code = " "

                        EXIT
```

```
        END IF

    USE JOB

    LOCATE FOR JCODE = CODE

    IF .NOT. FOUND ( )

    ? CHR (7)

    @ 21 , 2 CLEAR TO 23 , 78

    SET COLOR TO GB +/N

    @ 21 , 20 SAY "The Project not Exit :-"

    WATT  " " + SPACE (20) + 'Press ANY KEY to continue"

    Loop

    ENDIF

    *

    * this module test if the measurement is already in file

    *

    USE MEASFIL

    LOCATE FOR JCODE = CODE

    IF FOUND ( )

    ? CHR(7)

    SET COLOR TO GB+/N

@ 21 , 20 SAY "Measurement for the job already in file"
            @ 23 , 20 SAY "Press Any Key to Continue"

                WAIT " "

                Loop
```

```
    ENDIF
*

        Fag = 1

        @ 7 , 10 SAY "Taken by :- "GET NAME PICT" "xxxxxxxxxxxxxxxxx"

        MESSAGE " Enter staff name that took the measurement"

        @ 9 , 10 SAY "Date :- "Get dat / PICT "99/99/99 " MESSAGE " Enter date the

    measurement was taken "

        @ 11 , 1 SAY "ITEM CODE QUANTITY WIDTH HEIGHT TYPE"
        @ 12 , 1 SAY " ---------------------------------------------------------"

        tline = 14

DO WHILE Fag <= 4

        STORE SPACE (6) to itemd

        STORE 0 to bim 1, bim 2, bim 3

@ tline, 3 GET itemd MESSAGE "Enter the product code PICT" "xxxxxx"

READ

USE itemfil

LOCATE FOR it _ Code = itemd

IF . NOT. FOUND ( )

? CHR (7)

@ 21 , 10 SAY "item not found, it may be wrongly entered"
@ 22 , 10 SAY " press nay key to continue"

WAIT

@ 21 , 2 CLEAR TO 22, 78

END IF
```

```
itco [Fag] = itemd

tyf [Fag] = descript

@ tline , 55 SAY descript PICT "xxxxxxxxxxxxxxxxxxxxxxxx"
@ tline , 15 GET bim 1 PICT "9999"
@ tline , 30 GET bim 2 PICT "999.99"
@ tline , 42 GET bim 3 PICT "999.99"

READ

qtyy [fag] = bim 1

widh [fag] = bim 2

heih [fag] = bim 3

tline = tline + 1

fag = fag +1

END DO

@ tline +2, 10 SAY "Save the information (Y/N) :"GET das PICT "!"

READ

CLOSE DATABAS

IF UPPER (das) = "

USE measfil

    APPEND BLANIC

    REPLACE >CODE WITH CODE, TAKEN WITH NAME, IT _CODE 1

    WITH 1+CO( )

    REPLACE QTY 1 WITH QTY Y [1], WIDTH 1 : WITH WIDH[1],

    HEIGHT 1 WITH HEIH [1]

    REPLACE TYPE 1 WITH TY F [1]
```

```
REPLACE IT _ CODE 2 WITH ITCO [2], QTY 2 WITH QTY Y [2],

WIDTH 2 WITH WIDTH [2]

REPLACE HEIGHT 2 WITH HEIH [2], TYPE 2 WITH TYF [2]

REPLACE IT _CODE 3 WITH ITCO [3], QTY 3 WITH QTY Y [3],

WIDTH 3 WITH WIDH [3]

REPLACE HEIGHT 3 WITH HEIH [3] , TYPE 3 WITH TYF [3]

REPLACE IT _ CODE 4 WITH ITCO [4], QTY 4 WITH QTY Y [4],

WIDTH 4 WITH WIDH [4]

REPLACE HEIGHT 4 WITH HEIH [4], TYPE 4 WITH TYF [4]

ENDIF

ENDDO
```

* program of enter cost of labour, overhead and transportation

* File name :- QUOFIL, PRG

*

```
DO WHILE .T.

    CLEAR

        STORE  0 TO LAB, OURF, TARE , LAB 2

        STORE SPACE (1) TO DAS

        STORE DATE ( ) TO DAT 1

        STORE SPACE 96) TO G/N

    SET COLOR TO G/N

        @ 0 , 25 SAY "AMIN LIMITED"

    SET COLOR TO GR/N
```

```
                    @ 1 , 1 TO 1 , 79
                    @ 14 , 1 TO 14 , 79
                    @ 4 , 10 SAY "CODE FOR THE JOB :-" GET CODE PICT "XXXXXX"

                    READ

                    IF CODE = " "

                            EXIT

                                    ENDIF

* THIS MODULE TEST IF THE CODE IS ALREADY IN FILE

*

            USE qtofil

            LOCATE FOR JCODE = CODE

            IF FOUND ( )

            @ 21 , 20 SAY 'Quotaion for job already in file"
            @ 23 , 23 SAY "Press anu key to continue"

            WAIT " "

            LOOP

            ENDIF

*

* This aspect capture the data for the new job

*

            @ 7 , 10 SAY "Direct labour :- " GET  lab PICT "99.99"
            @ 9 , 10 SAY  "Overhead :- "GET ovrf PICT " "99.99"
            @ 11 , 10 SAY "Transportation :- " "Get tare PICT "999,999.99"
            @ 13 , 10 SAY "Discount :- "Get lab 2 PICT "999.99"
            @ 16 , 10 SAY "Save the information (Y/N) :- "Get das PICT "!"

                    READ
```

```
IF UPPER (das) = "Y"

    *

    * Write the data into the file

    *

            APPEND BLANK

            REPLACE JCODE WITH CODE LABOUR WITH LAB

            REPLACE OVERHEAD WITH OVRF, transport with tare, discount with la
            (2)

            ENDIF

            ENDDO

* program of Enter Down payment

* File Name :- PAYFIL.PRG

*

        DOWHILE .T.

            CLEAR

                STORE 0 TO Lab, ourf, tare, gat

                STORE SPACE (1) To name

                STORE date ( )  TO date 1

                STORE SPACE (6) TO Code

SET COLOR TO G/N

        @ 1 , 1 TO 1 , 79
        @ 15 , 1 TO 15 , 79
        @ 4 , 10 SAY "Code for the Job :- "Get code PICT "xxxxxx"

        READ

        IF Code = " "
```

```
            EXIT

        ENDIF

    SET COLOR TO GB + /N

        USE JOB

        LOCATE FOR JCODE = CODE

        IF .NOT. FOUND ( )S

            ? CHR (7)

        @ 21 , 20 SAY "Project code not in file 1 "

        WAIT " " + SPACE (20) + "PRESS ANY KEY TO CONTINUE"

    ENDIF

    Name = CUST _NAME

    Lab = Job _ TCOST

    Gat + PART _PAY

        @ 6, 10 SAY  CUST _NAME
        @ 6 , 40 SAY ADDRESS
        @ 8 , 10 SAY "TOTAL COST :-"
        @ 8 , 24 SAY HOB _ TCOST PICT "99,999,999.99"
        @ 10 , 10 SAY "BALANCE TO BE PAID"
        @ 10 , 35 SAY (JOB _TCOST _PART_PAY) PICT "99,999,999.99"

*


* This module test if the code is already in file

*


        IF Job tcost = part _pay

            ? CHR (7)

    @ 21 , 20 SAY "Payment for the job has been completed"
```

```
        LOCATE FOR it_code = itemd

        IF .NOT. FOUND ( )

        ?CHR (7)

@ 21, 2 SAY 'item not found, it may be wrongly entered"
@ 22 , 10 SAY "press any key to continue"

WAIT " "

@ 21 , 2 CLEAR TO 22 , 78

ENDIF

itco [Fag] = itemd

tyf [Fag] = descript

@ tline , 55 SAY descript PICT "xxxxxxxxxxxxxxxxxxxxxxx"
@ tline , 15 GET bim 1 PICT '9999
@ tline , 30 GET bim 2 PICT '999 99
@ tline,  42 GET bim 3 PICT '999 99"

READ

        qty y [fag] = bim 1

        widh [Fag] = bim 2

        heih [Fag] = bim 3

        tline = tline + 1

            Fag = fag +1

            ENDDO

@ tline + 2, 10SAY 'Save the information (Y?N) "- "Get das PICT "!"

        READ

            CLOSE DATABASE

            IF UPPER (das) = "Y"
```

```
USE  measfil

APPEND BLANK

REPLACE JCODE WITH CODE, TAKENBY WITH NAME,

IT _ CODE 1 WITH ITCO(1)

REPLACE qty 1 with qty y [1], width 1 with widh[1], height 1 with heih [1]

REPLACE type 1 with tyf [1]

REPLACE it _code 2 with itco [2]. qty 2 with qty y [2], widht 2 with width [2]

SET COLOR TO G/N

        @ 0 , 25 SAY "AMIN LIMITED"

SET COLOR TO GR/N

        @ 1 ,  1 TO 1 , 79
        @ 15 , 1 TO 15 , 79
        @ 4,  10 SAY "Code for the job :- "Get code PICT 'xxxxxx"

            READ

            If code = " "

                    EXIT

            ENDIF

    SET COLOR TO GB+/N

        USE JOB

        LOCATE FOR JCODE = CODE

        IF .NOT. FOUND ( )

                ? CHR (7)

        @ 21, 20 SAY 'Project code notin file 1"

        WAIT " " + SPACE (20) +" Press Any Key To Continue"
```

```
        ENDIF

        name = cust _name

        lab = job _ tcost

        gat = part _pay

                @ 6, 10 SAY CUST _NAME
                @ 6 , 40 SAY ADDRESS
                @ 8 , 10 SAY "TOTAL COST:-"
                @ 8 , 24 SAY JOB _TCOST PICT "99,999,999.99"
                @ 10 ,10 SAY "BALANCE TO BE PAID"
                @ 10 ,35 SAY (JOB _TCOST_PART_PAY) PICT

                    "99,999,999.99)
*
```

* **This module test if the code is already in file**

```
*

        IF job tcost = part _pay

        ?CHR(7)

        @ 21, 20 SAY 'Payment for the job has been completed"
        @ 23 , 23 SAY "Press anu key to continue"

        WAIT ' "

        LOOP

        ENDIF
*
```

* **This aspect capture the data for the new job**

```
*

                @ 12, 10 SAY "Payment made :- "GET our fPICT "99,999,999.99"
                @ 14 , 10 SAY "Payment Date :- GET date  1 PICT "99/99/99'
                @ 16, 10 SAY "Save the information (Y/N) "- Get das PICT "1"
```

```
READ

        tare = (lab-gat) - ovrf

        IF UPPER (das) = "Y"

                REPLACE balance with tare, part _pay with (gat + our f)

*

* write the data into the file

*

        CLOSE DATABASE

        USE PAYFIL

        APPEND BLANK

        REPLACE JCODE WITH CODE, CUST _NAME WITH NAME, JOB

        _TCOST WITH LAB

        REPLACE PART _PAY WITH OURF, BALANCE WITH TARE,

        DATE_ORD WITH DAT 1

ENDIF

ENDDO

* program of Enter new products into file

* File name :- ITEMPROD.PRG

*

        DO WHILE .T.

            CLEAR

                STORE SPACE (25) to descr

                STORE SPACE (1) to das
```

```
                    STORE  date ( ) to dat 1

                    STORE SPACE (6) to code

                    STORE  0 to pric

        SET COLOR TO G/N

                @ 0 , 25 SAY "AMIN LIMITED"

        SET COLOR GR/N

                @ 1 , 1 TO 1, 79
                @ 2, 20 SAY 'NEW -PRODUCT ENTRY"
                @ 14, 1 TO 14, 79
                @ 4, 10 SAY "Code for the product :- "Get code PICT "xxxxxx"

                MESSAGE "ENTER" NUMERIC CHARACTERS OR RETURN TO

                EXIT

                READ

                IF Code = " "

                        EXIT

                        ENDIF

    *


    * This module test if the code is already in file

    *

            USE  itemfil

            LOCATE FOR it _ code =code

            IF FOUND ( )

            ? CHR (7)

            @ 21 , 20 SAY "Item code already Exist in file"
            @ 22 , 20 SAY 'Press any key to continue'
```

```
        WAIT

        LOOP

        ENDIF

*

* This aspect capture the data for the new job

*

    @ 7 , 10 SAY "Description :- GET desc PICT "xxxxxxxxxxxxxxxxxxxxx"
    @ 10 , 10 SAY 'Standard price :- "GET pric PICT "99,999.99"
    @ 13 , 10 SAY 'Date :- "GET dat 1 PICT "99/99/99"
    @ 17 , 10 SAY "Save the information (Y/N) :- "GET das PICT "1"

    READ

    IF UPPER (das) = "Y"

    *

    * Write the data into file

    *

        APPEND BLANK

        REPLACE it _code with code, descript with descr

        REPLACE Stan _pri with pric, date_upd with dat 1

        ENDIF

        ENDDO
```

```
* Program to update (edit) the input date for ammendment

* Program name :- UPDATIME.PRG

*

DO WHILE .T.

        CLEAR

        opt = 0

        @ 1 , 1 TO 24 , 79 DOUBLE
        @ 3, 2 TO 3 , 78 DOUBLE

        SET COLOR TO G/N

        @ 2 , 20 SAY "AMIN LIMITED'

        SET COLOR TO W/N

        @ 5 , 22 TO 17 , 57 DOUBLE
        @23, 50 SAY ".... OLADOKUN O.C...."
        @ 7 , 32 SAY "UPDATE FILE OPTION"
        @ 8 ,  38 SAY 'MENU"
        @ 11 , 31 SAY " 0.....EXIT"
        @ 13 , 31 SAY "1.... EDIT RECORDS"
        @ 15 , 31 SAY "2.... DELET RECORDS: GET OPT PICTURE "9"

        RANGE 0,2

        READ

DO CASE

        CASE OPT = 0

                DO WHILE .T.

                        CLEAR

                        @ 1 , 1 TO 23, 79 DOUBLES
                        @ 3 , 2 TO 3, 78

                        SET COLOR TO G/N
```

```
@ 2, 15 SAY "AMIN LIMITED"

SET COLOR TO W/N

@ 5, 20 TO 7 , 60
@ 6, 30 SAY "EDIT RECORD ON FILED"
@ 9 , 20 TO 21 , 60

   STORE 0 TO ANS

              @ 10 , 25 SAY "0.....EXIT"
              @ 12 , 25 SAY " 1....JOB FILE"
              @ 14 , 25 SAY "1....MEASUREMENT FILE"
              @ 16 , 25 SAY "3.... ITEM FILE"
              @ 18 , 25 SAY "4....QUOTATION FILE"
              @ 20 , 25 SAY "5....PAYMENT FILE'
              @ 22 , 25 SAY "MAKE A SELECTION : " GET ANS PICTURE "9"

              RANGE  0 , 5

              READ

   DO CASE

          CASE ANS = 0

                  CLEAR

                      EXIT

          CASE ANS = 1

          DO WHILE .T.

          @ 4, 2CLEAR TO 22 , 78

                  STORE SPACE (6) TO ACCT

          @ 5, 15 SAY 'PROJECT CODE :- "GET ACCT PICT "XXXXXX" MES-

          SAGE" ENTER THE PROJECT

          READ

          IF ACCT. = "  "
```

```
                    EXIT

                    ENDIF

                    USE JOB INDEX JOB.NTX

                    SEEK  ACCT.

                    IF .NOT. FOUND ( )

                    ?CHR (7)

                    @ 15 , 15 SAY "JOB CODE NOT FOUND...."
                    @ 17 , 15 SAY "PRESS ANY KEY TO CONTINUE"

                    WAIT " "

                    LOOP


                    ENDIF

                @ 8 , 10 SAY "JOB CODE :- "GET JCODE PICT "XXXXXX"

                @ 10 , 10 SAY "NAME :- "GET CUST_NAME

PICT"XXXXXXXXXXXXXXXXXXXXXXXXXXXX" MESSAGE RE-ENTER CORRECT CUS-

TOMER NAME"

                @ 12 , 10 SAY 'ADDRESS :- "GET ADDRESS

PICT "XXXXXXXXXXXXXXXXXXXXXXXXX"MESSAGE RE-ENTER CORRECT

ADDRESS

                @ 16 , 10 SAY "ORDERED DATE :- "GET DATE_OR PICT "99/99/99"

                @ 18 , 10 SAY "COLLECTION DATE :- 'GET DATE_COL      PICT "99/99/99"

                    READ

                    ENDDO

                CASE ANS = 2
```

```
DO WHILE .T.

@ 4 , 2 CLEAR TO 22 , 78

STORE SPACE (6) TO ACCT

STORE DATE ( ) TO DAT 1

@ 5 , 10 SAY "JOB CODE :- GET ACCT PICT "XXXXXX"

READ

IF ACCT = " "

        EXIT

ENDIF

USE MEASFIL

LOCATE FOR JCODE = ACCT

IF .NOT. FOUND ( )

?CHR(7)

@ 15 , 15 SAY "ERROR !! :- CHECK PROJECT CODE ENTERED"

@ 17 , 20 SAY " PRESS ANY KEY TO CONTINUE"

WAIT " "

LOOP

ENDIF

@ 7 , 10 SAY  "J/CODE :- "GET JCODE PICT "XXXXXX" MESSAGE

"ENTER NEW JOB CODE"

@ 7 , 40 SAY " DATE: "GET DATE PICT "99/99/99"
@ 9 , 10 SAY " TAKEN BY :- "GET TAKEN BY PICT

"XXXXXXXXXXXXXXXXXXXX"
```

```
@ 11 , 10 GET IT_CODE 1 PICT "XXXXXX" MESSAGE "ENTER CORRECT

ITEM CODE"

@ 11 , 20 GET QTY 1 PICT "9,999"
@ 11 , 30 GET WIDTH 1 PICT "9,999.99"
@ 11 , 40GET HEIGHT 1 PICT "9,999.99"
@ 11 , 55 GET TYPE  1 PICT "XXXXXXXXXXXX"
@ 13 , 10  GET IT_CODE 2 PICT"XXXXXX" MESSAGE ENTER CORRECT

ITEM CODE"

@ 13 , 20 GET QTY 2  PICT "9,999"
@ 13 , 30  GET WIDTH 2 PICT "9,999.99"
@ 13 , 40 GET HEIGHT 2 PICT "9,999.99"
@ 13 , 55 GET TYPE 2 PICT "XXXXXXXXXXXX"

        READ

@ 15 , 10 GET IT_CODE 3 PICT "XXXXXX" MESSAGE 'ENTER CORRECT

ITEM CODE"

@ 15 , 20 GET QTY 3 PICT "9,999"
@ 15 , 30 GET WIDTH 3 PICT "9,999.99"
@ 15 , 40 GET HEIGHT 3 PICT "9,999.99"
@ 15 , 50 GET TYPE  3 PICT "XXXXXXXXXXXX"
@ 17 , 10  GET IT_CODE 4 PICT"XXXXXX" MESSAGE ENTER CORRECT

ITEM CODE"

@ 17 , 20 GET QTY 4  PICT "9,999"
@ 17 , 30  GET WIDTH 4 PICT "9,999.99"
@ 17 , 40 GET HEIGHT 4 PICT "9,999.99"
@ 17 , 50 GET TYPE 4 PICT "XXXXXXXXXXXX"

        READ

        ENDDO

CASE ANS =3

        DO WHILE .T.

@ 4 , 2 CLEAR TO 22 , 78
```

```
STORE SPACE (6) TO ACCT.

@ 5 , 15 SAY " PRODUCT CODE ;- "GET ACCT "XXXXXX" MESSAGE  ENTER

    THE PRODUCT"

            READ

            IF ACCT = "  "

                    EXIT

            ENDIF

                    USE  ITEMFIL INDEX TEMI.NTX
                         SEEK ACCT

                         IF .NOT. FOUND ( )

                         ? CHR (7)

        @ 15 , 15 SAY "JOB CODE NOT FOUND...."
        @ 17 , 15 SAY 'PRESS ANY KEY TO CONTINUE"

        WAIT

        LOOP

        ENDIF

        @ 8, 10 SAY "JOB CODE :- "GET JCODE PICT "XXXXXX"

        @ 10 , 10 SAY " NAME :- "GET CUST_NAME PICT

    "XXXXXXXXXXXXXXXXXXXXXXXXXXXXX" MESSAGE RE-ENTER CORRECT

        ITEM CODE"

        @ 12 , 10  SAY " ADDRESS:- "GET ADDRESS PICT

        "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX" MESSAGE RE-ENTER COR

        RECT ADDRESS
```

```
@ 16 , 10 SAY 'ORDERED DATE :- "GET DATE _OR PICT "99/99/99"

@ 18 , 10 SAY " COLLECTION DATE :- "GET DATE_COL PICT "99/99/99"

READ

ENDDO

CASE ANS = 2

        DO WHILE .T.

        @ 4 , 2 CLEAR TO 22 , 78

STORE SPACE (6) TO ACCT

STORE DATE ( ) TO DAT 1

@ 5 , 10 SAY " JOB CODE :- "GET ACCT PICT "XXXXXX"

READ

IF ACCT = "  "

        EXIT

        ENDIF

        USE MEASFIL

        LOCATE FOR JCODE = ACCT

        IF .NOT. FOUND ( )

        ? CHR (7)

    @ 15 , 15 SAY " ERROR !! "- CHECK PROJECT CODE ENTERED"

    @ 17 , 20 SAY " PRESS ANY KEY TO CONTINUE"

        WAIT "  "

        LOOP

        ENDIF
```

```
@ 7, 10 SAY " J/CODE :- 'GET JCODE PICT "XXXXXX" MESSAGE" ENTER NEW

JOB CODE "

@ 7, 40 SAY "DATE:- 'GET DATE PICT "99/99/99"
@ 9 , 10 SAY " TAKEN BY :- "GET TAKEN BY PICT"XXXXXXXXXXXXXXX"
@ 11, 10 GET IT_CODE 1 PICT "XXXXXX" MESSAGE"ENTER CORRECT ITEM

CODE"

@ 11 , 20 GET QTY 1  PICT "9,999"
@ 11 , 30 GET WIDTH 1 PICT "9,999.99"
@ 11, 40 GET HEIGHT 1 PICT "9,999.99"
@ 11, 55 GET TYPE 1 PICT "XXXXXXXXXXXX"
@13 , 10 GET IT_CODE 2 PICT "XXXXXX"MESSAGE ENTER CORRECT ITEM

CODE"

@ 13 , 20 GET QTY 2 PICT "9,999"
@13 , 30 GET WIDTH 2 PICT "9,999.99"
@ 13, 40 GET HEIGHT 2 PICT "9,999.99"
@ 13, 55 GET TYPE 2 PICT "XXXXXXXXXXXX"

READ

@ 15, 10 GET IT_CODE 3 PICT "XXXXXX"MESSAGE "ENTER CORRECT ITEM

CODE"

@ 15 , 20 GET QTY 3 PICT "9,999"
@ 15 , 30 GET WIDTH 3 PICT '9,999.99"
@ 15 , 40 GET HEIGHT 3 PICT "9,999.99"
@ 15 ,50 GET TYPE 3 PICT "XXXXXXXXXXXXXX"
@ 17 , 10 GET IT_CODE 4 PICT "XXXXXX" MESSAGE "ENTER CORECT ITEM

CODE"

@ 17 , 20 GET QTY 4 PICT "9,999"
@ 17 , 30 GET WIDTH 4 PICT "9,999.99"
@ 17 , 40 GET HEIGHT 4 PICT "9,999.99"
@ 17 , 50 GET TYPE 4 PICT "XXXXXXXXXXXXXXX"

    READ

ENDDO
```

```
CASE ANS = 3

    DO WHILE .T.

      @ 4, 2 CLEAR TO 22 , 78

          STORE SPACE (6) TO ACCT
@ 5, 15 SAY "PRODUCT CODE :- "GET ACCT PICT "XXXXXX" MESSAGE ENTEI

THE PRODUCT

READ

IF ACCT = " "

    EXIT

ENDIF

      USE ITEMFIL INDEX TEMI.NTX

      SEEK ACCT

      IF .NOT. FOUND ( )

      ?CHR (7)

@ 15 , 15 SAY "PROJECT CODE NOT FOUND . . ."
@ 17 , 15 SAY "PRESS ANY KEY TO CONTINUE"

WAIT " "

LOOP

ENDIF

@ 8, 10 SAY "PROJECT CODE :- "GET J CODE PICT "XXXXXX"
@ 10 , 10 SAY "TRANSPORT :- "GET TRANSPORT PICT "999,999.99"
@12 , 10 SAY "LABOUR :- "GET LABOUR PICT "999.99"
@ 14 , 10 SAY "OVERHEAD :- 'GET OVERHEAD PICT "999.99"
@ 16 , 10 SAY "DISCOUNT :- "GET DISCOUNT PICT "999.99"

    READ
```

```
ENDDO

        CASE  ANS = 5

               DO WHILE .T.

        @ 4 , 2 CLEAR TO 22, 78

        STORE SPACE (6) TO ACCT

        STORE DATE ( ) TO DAT

        @ 5, 15 SAY "PRODUCT CODE :- "GET ACCT.PICT 'XXXXXX"

        MESSAGE 'ENTER THE PRODUCT"

        @ 8 , 15 SAY "DATE :- "GET DAT PICT "99/99/99"

        READ

        IF ACCT = "  "

               EXIT

        ENDIF

        USE PAYFIL

               LOCATE FOR JCODE = ACCT.AND.DATE_OR D = DAT

               IF .NOT. FOUND ( )

                       ?CHR (7)

        @ 15 , 15 SAY "PROJECT CODE NOT FOUND . . . ."
        @ 17 , 15 SAY "PRESS ANY KEY TO CONTINUE"

        WAIT "  "

        LOOP

        ENDIF

@ 8, 10 SAY "PROJECT CODE :- "GET JCODE  PICT "XXXXXX"
@ 8, 10 SAY "PRODUCT CODE :- "GET IT_CODE PICT "XXXXXX"
```

```
@ 10 , 10 SAY "DESCRIPTION " GET DESCRIPT PICT

"XXXXXXXXXXXXX" MESSAGE "RE-ENTER CORRECT CUSTOMER

NAME"

@ 16 , 10 SAY 'STANDARD PRICE :- "GET STAN _PRI PICT "99,999.99"
@ 18 , 10 SAY 'DATE LAST UPDATE :- "GET DATE_UPD PICT "99/99/99"

        READ

      ENDDO

    CASE ANS = 4

            DO WHILE .T.

@ 4, 2 CLEAR TO 22 , 78

STORE SPACE 96) TO ACCT

@ 5, 15 SAY 'PRODUCT CODE :- "GET ACCT PICT "XXXXXX"

MESSAGE "ENTER THE PRODUCT"

      READ

      IF ACCT = "  "

      EXIT

      ENDIF

          USE QTOFIL

              LOCATE FOR JCODE = ACCT

              IF .NOT. FOUND ( )

              ? CHR (7)

              @ 15 , 15 SAY "PROJECT CODE NOT FOUND . . . . "

              @ 17 , 15 SAY "PRESS ANY KEY TO CONTINUE"
```

```
        WAIT

        LOOP

        ENDIF

@ 10 , 10 SAY "CUSTOMER NAME :- 'GET CUST_NAME PICT

"XXXXXXXXXXXXXXXXXXXXX"

@ 12 , 10 SAY "JOB TOTAL COST :- 'GET JOB_ TCOST PICT "99,999,999.99"
@ 14 , 10 SAY 'PARTMENT :- "GET PART_PAY PICT "99,999,999.99"
@ 16 , 10 SAY " BALANCE :- 'GET BALANCE PICT "99,999,999.99"
@ 18 , 10 SAY "'DATE PAID :- "GET DATE_OR D PICT '99/99/99"

        READ

            ENDDO

                ENDCASE

        ENDDO

        CASE OPT = 2

        ENDCASE

        ENDDO

* Program to Display the Report  Menu

* program Name :- REPORTM.PRG

DO WHILE .T.

        CLEAR

        STORE 0 TO as

*

* Designing and Displaying options of the menu

*
```

```
@ 0 , 20 SAY " REPORT MENU"
@ 0 , 55 SAY DATE ( )

SET COLOR TO G/N

@ 1, 1 TO 1, 79
@ 2, 1 TO 14 , 40
@ 2, 41 TO 14 , 79
@ 15 , 1 TO 15 , 79

SET COLOR TO GB+/N

@ 3, 5 SAY "0 . . . . EXIT'
@ 5, 5 SAY "1 . . . .OUTSTANDING JOB"
@ 7, 5 SAY " 2. . . . QUOTATION SHEET"
@ 9 , 5 SAY "3 . . . .PAYMENT ANALYSIS"
@ 11, 5 SAY '4 . . . . PRODUCT LISTING"
@ 3, 45 SAY "5 . . . . PROJECT ANALYSIS"
@ 5, 45 SAY " "
@ 7, 45 SAY " "
@ 9, 45 SAY " "
@ 11, 45 SAY " "

SET COLOR TO W/N

@ 17 , 30 SAY 'ENTER CHOICE :- "GET AS PICT "9" RANGE 0 , 5

READ

*

* BRANCHING TO THE APPROPRIATE FILE TO EXECUTE

*

DO CASE

CASE AS = 0

        EXIT

CASE AS = 1

DO OUTJOB

CASE AS = 2
```

```
DO QUOTSAT

CASE AS = 3

DO PAYANA

CASE AS = 4

DO EXIPRO

CASE AS = 5

DO PROANA

ENDCASE

ENDDO
```

* Program for printing outstanding job

* Program Name :- OUTJOB.PRG

*

```
        STORE " " TO AF

        STORE SPACE (6) TO FAR

        STORE DATE ( ) TO DAT , DAT 2

        CLEAR
```

*

* ENTER THE RANGE OF DATE

*

```
        @ 10 , 10 SAY "ENTER STARTING DATE :- GET DAT
        @ 12, 10 SAY "ENTER ENDING DATE :- "GET DAT 2

        READ
```

*

```
* SELECT DEVICE TO SEND REPORT TO

*

        DO WHILE .NOT. UPPER (af) AND "SPX"

        @ 20 , 10 SAY "SEND REPORT TO (S)CREEN OR (P)RINTER:- "GET af PICT "1

MESSAGE"PRESENTS THE FIRST LETTER IN BRACKET"

        READ

        ENDDO

*

* INTIALISED / OPEN PORT FOR OUTPUT

*

        DO CASE

                CASE  af = "P"

                        CLEAR

                        @ 19 , 10 SAY "INSERT PAPER CORRECTLY"
                        @ 21, 10 SAY 'PRESS ANY KEY TO CONTINUE"

                        WAIT " "

                        CLEAR

                        @ 22, 5 SAY "PRINTING IN PROGRESS . . . . ."
                        @ 23 , 5 SAY " PRESS ANY KEY TO CONTINUE AFTER

        PAPER CHANGE"

                        STORE 50 TO LLAST

                        SET DEVICE TO PRINT

                CASE af = "5"

                        CLEAR
```

```
            STORE 19 TO TLAST

        END CASE

*

* OPEN INPUT (ITEM) FILE AND SENT RECORD TO DEVICE

*

    SET COLOR TO GB+/N

        USE JOB

        LOCATE FOR DATE_COL>= DAT. AND.DATE _COL <= DAT2

            STORE 1 TO TLINE, PAGE

            DO WHILE .NOT. EOF ( )

        IF TLINE = 1

        @ 1, 15 SAY  "AMIN LIMITED"
        @ 2, 15 SAY "***************"
        @ 4, 15 SAY 'LIST OF OUTSTANDING JOBS"
        @ 4, 47 SAY "DATE :- "
        @ 4, 55 SAY DATE ( )
        @ 4, 66 SAY 'PAGE"
        @ 4, 71 SAY PAGE PICT "999"
        @ 5, 15 SAY "==================================="
        @ 7, 1 SAY 'CODE. CUSTOMER NAME    DATE ORDERED

        DELIV.DATE"

        @ 8, 1 SAY "==================================="

        TLINE = 10

    ENDIF

        @ TLINE, 1 SAY JCODE PICT 'XXXXXX"
        @ TLINE, 13 SAY CUST_NAME PICT "XXXXXXXXXXXXXXX"
        @ TLINE, 47 SAY DATE_OR PICT "99/99/99"
        @ TLINE, 61 SAT DATE_COL PICT "99/99/99"
```

```
TLINE = TLINE +1

    IF TLINE >= TLAST

  DO CASE

          CASE af = "P"

          EJECT

          WAI   T " "

          CASE af = "5"

          WAIT " "

          CLEAR

      ENDCASE

      TLINE = 1

      PAGE = PAGE +1

      ENDIF

SKIP

      ENDDO

IF af = "P'

    EJECT

          SET DEVICE TO SCREEN

    ELSE

        WAIT" "

        ENDIF
```

* Program for printing of quotation sheet

* Program name :- QUOTSAT.PRG

*

        STORE " " TO af

        STORE SPACE (6) TO far

        STORE DATE ( ) TO DAT, DAT 2

        CLEAR

*

* ENTER THE CODE AND OF DATE

*

        @ 15 , 10 SAY 'ENTER CODE OF PROJECT :-"GET far PICT "XXXXXX"
        @ 18 , 10 SAY " ENTER DATE :- 'GET dat PICT "99/99/99"

        READ

*

* SELECT DEVICE TO SEND REPORT TO

*

        DO WHILE .NOT. UPPER (at) $ "SPX"

@ 20 , 10 SAY 'SEND REPORT TO (S)CREEN OR (P)RINTER :- "GET af PICT "1"

MESSAGE " PRESENT THE FIRST LETTER IN BRACKET"

        READ

        ENDDO

*

* INITIALISED / OPEN PORT FOR UOTPUT

*

```
DO CASE

        CASE af = "P"

        CLEAR

        @ 19 , 10 SAY "INSERT PAPER CORRECTLY"
        @ 21 , 10 SAY "PRESS ANY KEY TO CONTINUE"

        WAIT " "

        CLEAR

        @ 22 , 5 SAY "PRINTING IN PROGRESS . . . ."

        STORE 61 TO TLAST

        SET DEVICE TO PRINTS

            CASE af = "S"

            CLEAR

            STORE 19 TO TLAST

        ENDCASE
*

* OPEN INPUT (ITEM) FILE AND SENT RECORD TO DEVICE

*

SET COLOR TO GB+/N

        USE JOB

        LOCATE FOR JCODE = FAR

            STORE 1 TO TLINE, PAGE

                    @ 1, 20 SAY "AMIN LIMITED'
                    @ 2, 20 SAY" * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *  * "
                    @ 4, 25  SAY " QUOTATION'
                    @ 4, 55 SAY "DATE :-"
                    @ 4, 63 SAY DATE ( )
```

```
                    @ 5, 25 SAY " ================'

                    @ 7, 5 SAY CUST_NAME

                    @ 8, 5 SAY ADDRESS

@ 10 , 5 SAY 'DEAR SIR/MA,"
@ 12, 5 SAY 'WE THANK YOU FOR INVITING US TO QUOTE FOR THE PROJECT.'
@ 14 , 5 SAY " THE BREAKDOWN OF THE ESTIMATE IS GIVEN

BELOW:
       DECLARE TYP[4],QUANT[4], ITEM[4], TCOST [4], HAD[4]

              STORE 0 TO TTAY, TTAY2

              @ 16 , 5 SAY "S/N"
              @ 16 , 15 SAY 'DESCRIPTION"
              @ 16 , 42 SAY 'QTY"
              @16 , 52 SAY 'U/PRICE"
              @ 16 , 56 SAY 'AREA"
              @ 16 , 69 SAY "TOTAL

              SET COLOR TO GB+/N

              @ 17 , 5 SAY "============"
              @ 17 , 15 SAY "================"
              @ 17 , 42 SAY "==========='
              @ 17 , 52 SAY "=============="
              @ 17 , 56 SAY "==========='
              @ 17 , 69 SAY "======="

              @ SET COLOR TO GB+/N

              USE MEASFIL

              LOCATE FOR JCODE = far

              ITEM [1] = IT_CODE 1

              QUAN [1] = QTY 1

              TYPE [1] TYPE 1

              ITEM [2] = IT_CODE 2
```

```
QUAN [2] = QTY 2

TYPE [2] = TYPE 2

ITEM [3] = IT_CODE 3

QUAN [3] = QTY 3

TYPE [3] = TYPE 3

ITEM[4] = IT_CODE 4

QUAN[4] = QTY 4

TYPE [4] = TYPE 4

CLOSE DATABASE

USE QTOFIL

LOCATE FOR JCODE = far

        TCOST+ [1] = ACC_COST 1

        TCOST [2] = ACC_COST 2

        TCOST [3] = ACC_COST 3

        TCOST[4] = ACC_COST 4

TAS = 1

TLINE = 18

STORE 0 TO TOAT, TYA

DO WHILE TAS <= 4

        STORE 0 TO IKA

        IF TCOST [TAS] >0

                @ TLINE , 4 SAY TAS PICT "99"
                @ TLINE, 15 SAY  TYP[TAS]
                @TLINE , 41 SAY QUAN [TAS] PICT "9999"
```

```
                    IKA = TCOST [TAS] / QUAN [TAS]

                    @ TLINE, 50 SAY IKA PICT "99,999,999.99'

                    HAD [TAS] = QUAN [TAS] * IKA

                    @TLINE, 65 SAY TCOST [TAS] PICT "99,999,999.99'

                    TOAT = TOAT +TCOST [TAS]

          ENDIF

                TAS = TAS +1

                TLINE = TLINE +1

          ENDDO

                    @ TLINE, 64 SAY "========================="
                    @ TLINE, 64 SAY
                    @ TLINE +1, 13 SAY "TOTAL => "
                    @ TLINE +1, 65 SAY TOAT PICT "99,999,999.99"

              IF at ="S"

                    WAIT " "

                    @ 9 , 1 CLEAR TO 23 , 79

                              TLINE = 8

                          ENDIF

                    @ TLINE +2, 20 SAY 'LABOUR COST :-'
                    @ TLINE +2, 50 SAY ([LABOUR /100] * TOAT ) PICT "99,999,999.99"
                    @ TLINE +4, 20 SAY 'OVERHEAD COST :- "
                    @ TLINE +4, 50 SAY ([OVERHEAD /100] * TOAT ) PICT "99,999,999.99"
                    @ TLINE +6, 20 SAY 'TRANSPORTATION COST :-"
                    @ TLINE +6, 50 SAY TRANSPORT PICT "99,999,999.99"

                    TTAY =TOAT + ([LABOUR /100] *TOAT) +  ([OVERHEAD /100] *

                    TOAT)

                    TTAY = TTAY + TRANSPORT - ([DISCOUNT/100] * TTAY)
```

```
            @ TLINE + 8, 10 SAY 'LESS:-"
            @ TLINE +8 , 20 SAY DISCOUNT PICT "999.99"
            @ TLINE +8, 26 SAY "% DISCOUNT:-"
            @ TLINE +8, 50 SAY ([DISCOUNT /100] * TTAY) PICT "9,999,999,99."

        TTAY2 = TYA + ([ 5/100] * TYA)

        @TLINE +10, 10 SAY "GRANDTOTAL :-"
        @ TLINE +12, 65 SAY TYA PICT "99,999,999.99"
        @ TLINE +12, 20 SAY ([5/100] * TYA) PICT "99,999,999.99"
        @ TLINE +14, 10 SAY "NET TOTAL ( AMOUNT DUE) :- "
        @ TLINE +14, 65 SAY TTAY2 PICT "99,999,999.99"

IF af = "P"

        @ TLINE +16, 5SAY "THIS QUOTATION IS SUBJECTED TO NEGOCIATION

        WITH THE FIRST WEEK"

      @ TLINE +17, 5 SAY "OF DELIVERY. AND IN THE  MEANTIME  WE ASSURE

        YOU OF OUR BEST ATTENTION"

        @ TLINE +18, 5 SAY 'AND SERVICES AT ALL TIMES"
        @ TLINE +20, 5 SAY " YOURS FAITHFULLY"
        @ TLINE +21 , 5 SAY " FOR : AMIN LIMITED,"
        @ TLINE =25, 5 SAY " SALES MANAGER"

        EJECT

        SET DEVICE TO SCREEN

        ENDIF

        IF af = "S"

            WAIT

        ENDIF
```

* Program for printing payment analysis of all project

* Within a period of time

* Program name "- PAYANA.PRG

*

```
        STORE " " TO af

        STORE SPACE (6) TO  FAR

        STORE DATE ( ) TO DAT, DAT2

        CLEAR
```

*

* ENTER THE RANGE OF DATE

*

```
        @ 10 , 10 SAY 'ENTER STARTING DATE:- "GET DAT
        @ 12, 10 SAY 'ENTER ENDING DATE:- "GET DAT2

            READ
```

*

* SELECT DEVICE TO SEND REPORT TO

*

```
        DO WHILE .NOT. UPPER (af) $ 'SPX'

        @ 20 , 10 SAY "SEND REPORT TO (S)CREEN OR (P)RINTER :-"

            GET af PICT '1" MESSAGE "PRESENT THE FIRST LETTER IN

            BRACKET"

                READ

                    ENDDO
```

*

```
* INITIALISED / OPEN PORT FOR OUTPUT

*

         DO CASE

              CASE af = "P"

                   CLEAR

                   @ 19 , 10 SAY "INSERT PAPER CORRECTLY"
                   @ 21, 10 SAY 'PRESS ANY KEY TO CONTINUE'

                   WAIT" ' "

                   CLEAR

                   @ 22, 5 SAY "PRINTING IN PROGRESS . . . . ."

                   @ 23 , 5 SAY "PRESS ANY KEY TO CONTINUE AFTER

                   PAPER CHANGE"

                   STORE 50 TO TLAST

                   SET DEVICE TO PRINT

              CASE af = "S"

                   CLEAR

                   STORE 19 TO TLAST

              ENDCASE

*

* OPEN INPUT ( ITEM) FILE AND SENT RECORD TO DEVICE

*

         SET COLOR TO GB+/N

              USE JOB

              LOCATE FOR DATE_COL >= DAT. AND. DATE _ COL <=
```

```
                    DAT2

                STORE 1 TI TLINE , PAGE

                DO WHILE .NOT. EOFL)

          IF TLINE = 1

          @ 1, 15 SAY "AMIN LIMITED"
          @ 2, 15 SAY " * * * * * * * * * *  *  * *  * * * * *  *  * *  "
          @ 4, 5  SAY " PAYMENT ANALYSIS FOR        PROJECTS"
          @ 4, 45 SAY "DAT PICT " 99/99/99"
          @ 4, 54  SAY "_____"
          @ 4, 55 SAY DAT2 PICT "99/99/99"
          @ 4, 66 SAY "PAGE"
          @ 4, 71 SAY PAGE PICT "999"
          @ 5, 5 SAY "=========================="
          @ 7, 1 SAY 'CODE. CUSTOMER NAME    TOTAL/COST

          PAY./MADE

  IF af = "P"

          @ 7, 72 SAY "BALANCE"
          @ 8, 72 SAY "========"

ENDIF

          @ 8, 1 SAY "================================================="

          TLINE = 10

ENDIF

          @ TLINE , 1 SAY JCODE PICT "XXXXXX"
          @ TLINE , 10 SAY CUST_NAME PICT "XXXXXXXXXXXXXXXXXXXX"
          @ TLINE, 37 SAY JOB_TLAST PICT '99,999,999.99"
          @ TLINE , 55 SAY PART_PAY PICT "99,999,999.99"

          IF af = "P"

          @ TLINE , 71 SAY BALANCE PICT "99,999,999.99"

ENDIF

          TLINE = TLINE + 1
```

```
        IF TLINE >= TLAST

        DO CASE

        CASE  af = "P"

        EJECT

        WAIT "  "

        CASE af ="S"

        WAIT "  "

        CLEAR

        END CASE

        TLINE = 1

        PAGE = PAGE +1

        END IF

        SKIP

        ENDDO

        IF af = 'P"

        EJECT

        SET DEVICE TO SCREEN

ELSE

        WAIT "  "

ENDIF
```

* Program Name :- EXIPRO

*

```
        STORE "  " TO af
```

```
          STORE SPACE (6) TO far

          STORE DATE ( ) TO DAT

          CLEAR

*


* SELECT DEVICE TO SEND REPORT TO

*


          DO WHILE .NOT. UPPER (af) $ "SPX "

          @ 20 , 10 SAY "SEND REPORT TO (S)CREEN OR (P)RINTER ;-

          "GET af PICT "1" MESSAGE "PRESENT FIRST LETTER IN

          BRACKET"

          READ

          ENDDO

*


* INITIALISED / OPEN PORT FOR OUTPUT

*


          DO CASE

                CASE af ="P"

                      CLEAR

                      @ 19 , 10 SAY ' INSERT PAPER CORRECTLY"
                      @ 21, 10 SAY ' PRESS ANY KEY TO CONTINUE"

          WAIT "  "

          CLEAR

                      @ 22 , 5 SAY ' PRINTING IN PROGRESS . . . . . "
                      @23 , 5 SAY ' PRESS ANY KEY TO CONTINUE AFTER
```

```
                    PAPER CHANGE "

                    STORE 50 TO TLAST

                    SET DEVICE TO PRINT

            CASE af = "S'

                    CLEAR

                    STORE 19 TO TLAST

            ENDCASE

    *

    * OPEN INPUT (ITEM) FILE AND SENT RECORD TO DEVICE

    *

                    SET COLOR TO GB+/N

                    USE ITEMFIL

                    STORE 1 TO TLINE, PAGE

                    DO WHILE .NOT. EOF ( )

    @ TLINE, 65 SAY DATE_UPD PICT "99/99/99"

                    TLINE = TLINE +1

                        IF TLINE >= TLAST

                            DO CASE

                                CASE af = "P"

                    EJECT

                    WAIT "  "

                    CASE af = "S"

                    WAIT "  "
```

```
        CLEAR

        ENDCASE

        TLINE = 1

        PAGE = PAGE +1

        ENDIF

        SKIP

        ENDDO

        IF af = "P"

        EJECT

        SET DEVICE TO SCREEN

    ELSE

    WAIT " "

    ENDIF


    * Program for the project Analysis

    * Program name :- PROANA.PRG

    *

        CLEAR

        STORE SPACE (6) TO far

        STORE SPACE (1) TO af

    * ENTER THE CODE OF PROJECT :- "GET far PICT "XXXXXX"

    *

    * SELECT DEVICE TO SEND REPORT TO
```

```
*

                    DO WHILE .NOT. UPPER (af) $ "SPX"

@ 20 , 10 SAY " SEND REPORT TO (S)CREEN OR (P)RINTER :-

            'GET af PICT "1" MESSAGE "PRESS

            THE FIRST LETTER IN BRACKET"

                        READ

                        ENDDO

*

* INITIALISED /OPEN PORT FOR OUTPUT

*

        DO CASE

                CASE af ="P"

                        CLEAR

                        @ 19 , 10 SAY "INSERT PAPER CORRECTLY"
                        @ 21, 10 SAY "PRESS ANY LEY TO CONTINUE"

                        WAIT "   "

                        CLEAR

                        @ 22, 5 SAY " PRINTING IN PROGRESS . . . . "

                        STORE 61 TO TLAST

                        SET DEVICE TO PRINT

                CASE af = "S"

                        CLEAR

                        STORE 19 TO TLAST

                ENDCASE
```

```
*

* OPEN INPUT (ITEM) FILE AND SENT RECORD TO DEVICE

*


        SET COLOR TO GB+/N

        USE JOB

        LOCATE FOR JCODE = far

        STORE 1 TO TLINE, PAGE

                @ 1,20 SAY " AMIN LIMITED"
                @2, 20 SAY " XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
                @ 4, 5 SAY " PROJECT ANALYSIS FOR"
                @ 4, 30 SAY CUST_NAME
                @ 4 , 60 SAY "DATE :- "
                @ 4, 67 SAY DATE ( )
                @ 5, 5 SAY "=========================="

                STORE 0 TO TTAY, TTAY2

                TTAY = JOB_TCOST

                TTAY2 = BALANCE

                @ 7, 5 SAY " TOTAL COST OF PROJECT :-"

                @ 7, 55 SAY "JOB_TCOST PICT "99,999,999.99"

        CLOSE DATABASE

        @ 9, 5 SAY " PAYMENT MADE"
        @ 10 , 5 SAY " _____ "

        USE PAYFIL

        LOCATE FOR JCODE = far

        TAS = 1

        TLINE = 12

        STORE 0 TO TOAT, TYA
```

```
DO WHILE .NOT. EOF ( )

        @ TLINE, 5 SAY DATE_ORD PICT '99/99/99'
        @ TLINE, 40 SAY PART_PAY PICT "99,999,999.99"

        TOAT = TOAT + PART_PAY

            TLINE = TLINE +1

        IF TLINE >= TLAST

            IF af = 'S"

                    WAIT " .   " + SPACE (20) + "PRESS ANY KEY TO

                    CONTINUE"

            @ 12, 1 CLEAR TO 20, 79

            TLINE = 12

            ENDIF

    ENDIF

        CONTINUE

ENDDO


@ TLINE , 40 SAY "=================='
@ TLINE + 1 , 5 SAY " TOTAL =>"
@ TLINE +1, 40 TOAT PICT "99,999,999.99"
@ TLINE + 3, 5 SAY "BALANCE (AMOUNT DUE) :-"
@ TLINE + 3, 55 SAY (TTAY - TOAT) PICT "99,999,999.99"

    IF af = "P"

        EJECT

        SET DEVICE TO SCREEN

            ENDIF

        IF af = "S"
```

```
        WAIT " "

ENDIF


* Programs Enquiries

CLEAR

@ 0 , 20 SAY 'ENQUIRIES MENU"
@ 1 , 1 TO 1, 79
@ 2, 1 TO 18, 78 DOUBLE
@ 4, 49 TO 17 , 76
@ 5, 53 SAY ' GET INFORMATION ABOUT."
@ 6, 51 TO 6, 75

STORE SPACE 91) TO TAKE

SET COLOR TO GB+/N

@ 8, 50  SAY "T -> TIME."
@ 9, 50 SAY "D -> DATE.'
@ 10 , 50 SAY "S -> TOTAL DISK SPACE.'
@ 11, 50 SAY "N -> NUMBER OF RECORD(S)."
@ 12, 50 SAY " R -> DIRECTORY."
@ 13, 50 SAY "X -> EXIT."
@ 16, 50 SAY " INFORMATION ABOUT."

        SET COLOR TO W/N

        DO WHILE .T.

                @ 16 , 72 GET TAKE PICTURE "A"

                READ

                STORE UPPER (TAKE) TO TAKE

                @ 21, 0 CLEAR TO 23, 79

                DO CASE

                        CASE TAKE = "T"

                @ 21, 0 CLEAR TO 23 , 70
```

```
?CHR (7)

@ 21, 10 SAY  "TIME IS : "

@ 21, 22 SAY TIME ( )

?

    WAIT SPACE (10) + "PRESS ANY KEY TO CONTINUE..."

    @ 21, 0 CLEAR TO 23, 79

    TAKE = "  "

CASE TAKE = "D"

    @ 21, 0 CLEAR 23, 79

    TAKE = "  "

CASE TAKE = "S"

@ 21, 0 CLEAR TO 23 , 79

? CHR (7)

STORE DISK SPACE  ( ) TO TOPA

@ 21, 10 SAY ' THE NOS OF BYTE FREE :-'

@ 21, 35 SAY SOLA

?

WAIT SPACE (10) + "PRESS ANY KEY TO CONTINUE........."

@ 21, 0 CLEAR TO 23, 79

TAKE = "   "

CASE TAKE = "N"

    ? CHR (7)

    USE MEAFIL
```

```
        COUNT TO SOLL 1

        CLOSE DATABASE

        USE  JOB

        COUNT O SOLL 2

        CLOSE DATABASE

        USE ITEMFIL

        COUNT TO SOLL 3

        CLOSE DATABASE

        USE QTOFIL

        COUNT TO SOLL 4

        USE PAYFIL

        COUNT TO SOLL 5

@ 4, 10 SAY 'CURRENT FILE SIZES.'

@ 5, 3 TO 17 , 40

        SET COLOR TO GR+/N

@ 7, 5 SAY " MEASUREMENT FILE :-"

@ 7, 27 SAY SOLL1

@ 9, 5 SAY '"JOB FILE :-"
@ 9 , 27 SAY SOLL 2
@ 11, 5 SAY 'QUOTATION FILE :-"
@ 11, 27 SAY SOLL 4
@ 13, 5 SAY " PRODUCT FILE :- "
@ 13, 27 SAY SOLL 3
@ 15 , 5 SAY " PAYMENT FILE :-"
@ 15 , 27 SAY SOLL 5

@ 19 , 1

 SET COLOR TO W/N
```

```
WAIT " "

@ 4, 3 CLEAR TO 17 , 40

TAKE = " "

CASE TAKE = "R"

@ 21, 0 CLEAR TO 23, 79

CLEAR

STORE 1 TO K

" "

WAIT

RETURN

CASE TAKE = "X"

        RETURN

END CASE

ENDDO WHILE .T.

RETURN

DO WHILE .T.

CLEAR

SET COLOR TO GR+/N

@ 2 , 10 SAY ' UTILITIES MENU."

@ 2, 60 SAY DATE ( )

@ 3, 0 TO 19 , 79

@ 4, 2 TO 18 , 45 DOUBLE

STORE 0 TO GIVE
```

```
        @ 6, 5 SAY "0 .  .  . EXIT TO MAIN MENU."

        @ 9 , 5 SAY "1 .  .  . BACK UP FILES."

        @ 11, 5 SAY " 2.  .  .  RE-INDEX FILES."

        @ 13, 5 SAY  "3 .  .  .  RESTORE FILES"

        SET COLOR TO W/N

        @ 14 , 30 GET GIVE PICTURE "9" RANGE 0,3

        READ

        DO CASE

                CASE GIVE = 0

                        EXIT

                CASE GIVE = 1

                CASE GIVE = 2

                CLEAR

                STORE SPACE (5) TO GAY

                FIL = "PAY' + TRIM (GAY)

        @ 15 , 20 SAY " INDEXING FILES .  .  .  .  .  .  .  .  . "

        USE JOB

        INDEX ON JCODE TO JOB.NTX

        USE ITEMFIL

        INDEX ON IT_CODE TO OLUS.NTX

END CASE

ENDDO WHILE .T.

RETURN
```

```
* program to calculate the production cost of a project

* program Name :- VALQUO.PRG

*

DO WHILE .T.

CLEAR

STORE SPACE (6) TO CODE

DECLARE ITEM [4], QUAN[4], WID[4], HEIG[4], TYP[4], HAD[4]

SET COLOR TO G/N

@ 0, 25 SAY "AMIN LIMITED"

SET COLOR TO W/N

@ 1, 1 TO 13 , 79 DOUBLE

@ 2 , 25 TO 4, 47

@ 3, 28 SAY " VALIDATION MENU"

@ 5, 10 SAY " ENTER PROJECT CODE :- 'GET CODE PICT 'XXXXX"

READ

IF CODE = "    "

        EXIT

ENDIF

*

    * THIS ASPECT TEST IF THE CALCULATION HAS ALREADY BEEN

    MADE

    *

    SET COLOR TO GR+/N
```

```
STORE SPACE (1) TO DAS

USE QTOFIL

LOCATE FOR JCODE = CODE

IF .NOT. FOUND ( )

? CHR (7)

@ 20 , 1 CLEAR TO 22, 78

@ 20 , 20 SAY "GO TO THE MAIN MENU  TO ENTER  MEASUREMENT"

WAIT " " + SPACE (20) + "PRESS ANY KEY TO CONTINUE"

LOOP

ENDIF

IF IT_CODE 1< > " "

? CHR (7)

@ 20, 20 SAY " CALCULATION HAS ALREADY BEEN MADE !"

@ 22, 10 SAY " YOU WISH TO RE -CALCULATE AND WRITE TO FILE
( Y/N) :- " GET DAS PICT "!"

READ

@ 20 , 2 CLEAR TO 23, 79

ENDIF

STORE 0 TO TTAY, TTAY2

@ 5, 2 CLEAR TO 12, 78

@ 5, 5 SAY "CODE"

@ 5, 15 SAY " DESCRIPTION"

@ 5, 39 SAY "QTY.'
```

```
@ 5, 46 SAY "S/PRICE"

@ 5, 56 SAY "AREA"

@ 5, 69 SAY "TOTAL"

SET COLOR TO GR/N

@ 6, 2 TO 6 , 78

@ 5, 10 TO 12, 10

@ 5, 37 TO 12, 37

@ 5, 44 TO 12, 44

@ 5, 54 TO 12, 54

@ 5, 63 TO 12, 63

CLOSE DATABASE

SET COLOR TO  GB+/N

USE  MEASFIL

LOCATE FOR JCODE = CODE

IF .NOT. FOUND ( )

? CHR (7)

@ 21, 20 SAY " ERROR => PROJECT CODE NOT IN MEASUREMENT
FILE"

@ 22, 20 SAY "              CHECK IF THE CODE HAS BEEN ENTERED"

WAIT " " + SPACE (20) + " PRESS ANY KEY TO CONTINUE".

LOOP

ENDIF

ITEM [1] = IT_CODE 1
```

```
QUAN [1] = QTY 1

WID [1] = WIDTH 1

HEIG [1] = HEIGHT 1

TYP [1] = TYPE 1

ITEM [2] = IT_CODE 2

QUAN [2] = QTY 2

WID [2] = WIDTH 2

HEIG [2] = HEIGHT 2

TYP [2] = TYPE 2

ITEM [3] = IT_CODE 3

QUAN [3] = QTY 3

WID [3] = WIDTH 3

HEIG [3] = HEIGHT 3

TYP [3] = TYPE 3

ITEM [4] = IT_CODE 4

QUAN [4] = QTY 4

WID [4] = WIDTH 4

HEIG [4] = HEIGHT 4

TYP [4] = TYPE 4

TAS = 1

TLINE = 7

STORE 0 TO TOAT, TYA

DO WHILE TAS <= 4
```

```
STORE 0 TO CAG, IKA

USE ITEMFIL

        LOCATE FOR IT_CODE = ITEM [TAS]

        @ TLINE , 3 SAY ITEM [TAS] PICT "XXXXXX"

        @ TLINE, 11 SAY DESCRIPT

        @ TLINE, 38 SAY QUAN [TAS] PICT "9999"

        @ TLINE , 45 SAY STAN_PRI PICT "99,999.99"

        IKA = WID [TAS] * HEIG [TAS]

        @ TLINE , 56 SAY IKA PICT "999.99"

        CAG = IKA * STAN_PRI

        HAD [TAS] = QUAN [TAS] * CAG

        @ TLINE , 65 SAY HAD [TAS] PICT "99,999,999.99"

        TOAT = TOAT + HAD [TAS]

        TAS = TAS + 1

        TLINE = TLINE + 1

        ENDDO

        @ TLINE , 64 SAY "========================="

        @ TLINE + 1, 13 SAY " TOTAL => "

        @ TLINE + 1 , 65 SAY TOAT PICT "99,999,999.99"

        CLOSE DATABASE

        USE QTOFIL

        LOCATE FOR JCODE = CODE

        IF UPPER (DAS) = "Y"
```

```
        REPLACE IT_CODE 1 WITH ITEM [1], ACC_COST 1

        WITH HAD [1]

        REPLACE IT_CODE 2 WITH ITEM [2], ACC_COST 2

        WITH HAD [2]

        REPLACE IT_CODE 3 WITH ITEM [3], ACC_COST 3

        WITH HAD [3]

        REPLACE IT_CODE 4 WITH ITEM [4], ACC_COST 4

        WITH HAD [4]

END IF

                @ 15 , 20 SAY " LABOUR COST :-"

                @ 15 , 50 SAY ( [LABOUR/100] * TOAT ) PICT

                "99,999,999.99"

                @ 16 , 20 SAY " OVERHEAD COST :- "

                @ 16 , 50 SAY ([OVERHEAD/100] * TOAT) PICT

                "99,999,999.99"

                @ 17 , 20 SAY" TRANSPORTATION COST :- "

                @ 17 , 50 SAY TRANSPORT PICT "99,999,999.99"

                TTAY = TOAT + ([LABOUR /100] * TOAT) + ([OVER-

                HEAD /100] * TOAT)

                TYA = TTAY + TRANSPORT - ([DISCOUNT/100] *TTAY)

                @ 18 ,10 SAY " LESS :-"

                @ 18 , 20 SAY DISCOUNT PICT "999.99"

                @ 18 , 26 SAY "% DISCOUNT :-"
```

```
@ 18 , 50 SAY ([DISCOUNT/100] * TTAY ) PICT

"9,999,999.99"

TTAY 2 = TYA + ( [5/100] * TYA )

@ 20 , 10 SAY " GRAND TOTAL :-"

@ 20, 65 SAY TYA PICT "99,999,999.99"

@ 21 , 20 SAY " 5% OF V.A.T :-"

@21, 50 SAY (5/100) * TYA ) PICT "99,999,999.99"

@ 23, 10 SAY " NET TOTAL  ( AMOUNT DUE):-"

@ 23, 65 SAY TTAY 2 PICT "99,999,999.99"

IF UPPER (DAS) = "Y"

        CLOSE DATA        BASE

        USE JOB

        LOCATE FOR JCODE = CODE

        REPLACE JOB_TCOST WITH TTAY2

ENDIF

WAIT " "

END DO

* PROGRAM FOR THE PRODUCTION SYSTEM HELP

MENU

CLEAR

SET COLOR TO BG/N

TEXT
```

THIS IS THE SCREEN HELP MENU

This software has been developed in an interactive way, i.e. easy to use by anybody. You can only get to the other menu from the MAIN MENU ,press the appropriate key for the particular function you want. In the main menu "

ENDTEXT
SET COLOR TO GB+/N
TEXT

Press A   -   to exit the program and go to DOS

B   -   Input menu (creating a new customer files,

specification etc..)

C   -   update (editing and deleting of records)

D   -   report menu, (generating the output)

E   -   Enquiries

F   -   Utilities indexing of files, backup etc..

G   -   Calculate items cost for a particular job using

standard price

ENDTEXT
SET COLOR TO BG/N
TEXT
For more information call the Software Developers
ENDTEXT
@ 18 , 45 TO 22, 79
SET COLOR TO GB+/N
@ 19, 49 SAY " OLADOKUN OLUSOLA CHARLES,"
@ 20, 49 SAY " DEPARTMENT OF MATHEMATICS/COMPUTER SCIENCE"
@ 21, 49 SAY ' FEDERAL UNIVERSITY OF TECHNOLOGY MINNA."

WAIT " "