STORAGE AND CONTROL OF STOCK SYSTEM A CASE FOR PURCHASING AND SUPPLIES DIVISION OF FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

BY

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THIS PROJECT IS SUBMITTED TO THE DEPARTMENT OF MATHEMATICS/STATISTICS/COMPUTER SCIENCE AS A PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A POST GRADUATE DIPLOMA IN COMPUTER SCIENCE.

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DECLARATION

I hereby declare that this project work was solely carried out by me under the supervision of Dr. S.A. Reju, Department of Mathematics/Statistics/Computer Science, Federal University of Technology, Minna during the 1996/97 Academic Session.

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Date

DEDICATION

I dedicate this project to the Almighty God.

APPROVAL PAGE

I hereby certify that I have supervised, read and approved this project work which I found to be adequate in scope and quality for the partial fulfilment of the award of a Post Graduate Diploma in Computer Science (PGD in Computer Science).

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ABSTRACT

This study centers around the central purchasing and supplies division of the Federal University of Technology, Minna. The main objective of this study was to find out how stores activities are carried out and to suggest the possibility of computerising the stores activities so as to enhance accuracy.

This is a database project showing the advantages of computerising the stores activities over the manual system that is in operation.

The method adopted for the collection of data is personal observation.

The project itself is split into five chapters. The first three chapters contain the organisational structure, definition of stores function and the classification of stores. It also contains the procedures used in receiving goods into the stores, requisition procedures, issues and despatch of goods. Chapter four contains a dbase programme of stock list of stationery items, receiving and issuing items out of stores as well as a master file containing every item stock in the storehouse.

Finally, the last chapter contains conclusion and recommendations.

CHAPTER ONE

THE STORES FUNCTIONS AND IDENTIFICATION

1.0 PURPOSE

1.1 The stores' function is a vital part of industrial concerns, public and private utility undertakings, Agricultural enterprises, Municipal Authorities, Armed Services and Government departments and it must be designed to suit the particular needs of the organisation it serves.

The stores function is set up in any concern to assist in the production of goods or services and no industrial unit or public organisation of substantial size can be efficiently managed without it.

The primary objective is to provide a service to the operating functions and this must be fully appreciated. Every other stores activities, although they have their own relative importance, are subordinate to this main responsibility.

A good system ensures that materials are at the right place at the right time and in the right quantity.

The services can be analysed into four parts as follows;

i. To make available a balanced flow of raw materials, components, tools, equipments, stationery and any other commodities necessary to meet operational requirements.

ii. To provide maintenance materials, spare parts and general stores as required.

iii. To receive and issue work in progress and finished products.

iv. To accept and store scrap and other discarded material as it arises.

1.2 RESPONSIBILITIES

It has been emphasised that service is the principal objective of the stores function, but it is obviously desirable to provide that service economically. The most important consideration is to maintain the value of stores in stock (i.e. the inventory value) at the lowest practicable level at all times in order to economize in the use of working capital and to minimize the cost of storage. On the other hand, the more stock held the easier it is to have required items readily available on demand , and on the other hand, the more stock held the greater the cost incurred.

1.3 ORGANISATION

In a small institution like the Federal University of Technology, Minna, the stores function is being operated from the purchasing and supply Division run by a Stores Officer who is presently the Principal Stores Officer. The Principal Stores Officer liaise with the Bursary who makes cash available for procurement of stores items into the stores. A specimen organisation chart of the stores function is shown in Figure 1.1.3.

1.4 POSITION WITHIN PROCUREMENT

Stores and purchasing are largely inter-dependent on each other, therefore lack of cooperation on either side is reflected in the other. Under this arrangement, the purchasing decisions are suppose to be balanced against stock inventory needs, therefore, the potentially conflicting objectives of each are brought together in an optimal solution. Purchasing for example,

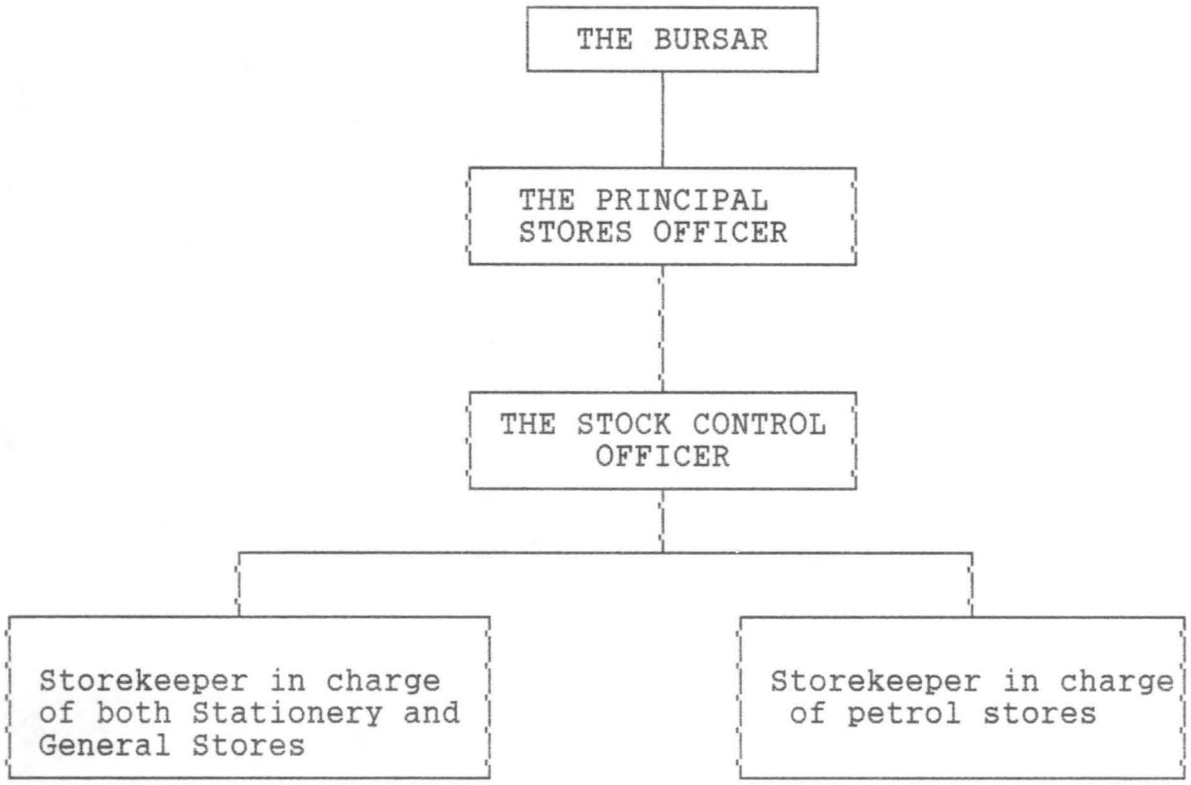


Fig. 1.1.3 Organisational Chart

might want to buy in bulk in order to obtain better discounts, stock control policy, on the other hand might require smaller and less expensively stored quantities. Where this integrated approach is applied, the close communication between purchasing and the stock/stores control procedures brings several advantages such as:-

i. Lead times can be monitored constantly and fed into the stock control process.

ii. Seasonality or other known fluctuations of demand can be related back to the purchasing people for appropriate action.

iii. Sourcing problems and difficult market conditions which generate substitute materials or larger order quantities can be absorbed more readily into the stock control system.

iv. Slow moving, redundant or deteriorating stock lines can be identified readily.

1.5 RELATIONSHIP WITH OTHER DEPARTMENTS

In order to discharge its responsibilities adequately, the stores department must actively cooperate with other departments, not only to provide a service, but to give and receive information so that the service is efficient. The nature of the other functions involved varies in different organisations, as does the scope and responsibility of the stores function, this makes it difficult to be precise about the relationships unless each case is considered separately. For example, the following notes indicate the position as it is normally found in production factories:-

(a) Production Department

This department is the main stores "customer" and it is therefore of the first importance that the services to production are satisfactory in all aspects. Co-operation between stores and production is very essential not only on the provision of materials but also on the stock levels to be maintained in accordance with the policy for inventory control.

The stores department provides materials, tools and other shop supplies at the required times and in the required quantities to meet factory programme, It also advises on anticipated difficulties or failure of supply, and notifies any

substitute or surplus materials available from stock. The storehouse should be ready to accept work in progress and finished goods at any time and to receive scrap, rejected items and salvaged or reclaimed materials as they arise so that the shop floor may be promptly cleared.

The production department sends in to the appropriate store houses not only work in progress and finished goods but any excess materials, tools, fixtures and equipment not currently required and notifies as soon as possible any impending changes in the production schedule.

(b) Design and Engineering Departments

It is very important to have a close contact with these departments, particularly from the point of view of specifications, standards and obsolescence. Arrangements should be made to see that before any new design, modification or technique is put into production due note is taken of materials to the old design so as to avoid obsolescence. The Design or Engineering departments are to be consulted when obsolescent or obsolete items are being listed for disposal.

(c) Inspection Department

In the Federal University of Technology, Minna, inspection department is located within the Central Purchasing and Supplies Division. The Inspection unit inspects and test deliveries without delay and indicates acceptance or rejection together with advice on whether doubtful consignments can be put into use subject to a discount in price, or whether they should be returned to supplies as totally unacceptable.

(d) Bursary or Finance Departments

There is continuous exchange of information covering verification of book entries and physical stock clearance of invoices both inwards and outwards, revision of prices, supply of material cost information and control of working capital allocated to the financing of stock. Procedures are organised to work together effectively to control the value of inventory and cost of materials. The Bursary department is the custodian of cash while the Stores is the custodian of stock items.

(e) Transport Department

The stores department is itself sometimes responsible for transport but here in the Federal University of Technology, Minna, there is a separate transport department. The transport department is responsible for the ready availability of vehicles and also for advising any circumstances which may delay deliveries or collections, such as breakdowns, strike or adverse weather.

1.6 IDENTIFICATION OF STORES

"Stores" is a general term describing goods which are held in storehouses and stockyards. For our purpose, these goods are consumable items which could either be allocated or un-allocated stores. They are classified thus for accounting purposes;

(a) Allocated Stores

These are items purchased directly by the various departments and are taken to the stores for safe keeping. The storekeeper must be fully informed of all allocations and enter appropriate particulars in his records. Issues of any allocated

goods from the stores must be accompanied with issues notes from the user department relating to the allocated material in question. Sometimes it is necessary to indicate the purpose for which these items are required.

(b) Un-allocated Stores

This is the central stores which carries consumable goods needed for use within the institution. These are goods purchased by the institution and issued to the various departments within the institution. The un-allocated stores includes general stores which consist of common items in constant demand by various departments. When issued out to any department, the cost is charged to the appropriate departmental code.

1.7 CODING STORES

The normal way of identifying an article is by simple description, but this by itself is not entirely satisfactory for stores purposes. Several different names may be used for the same thing e.g. a "dustbin", "refuse container", or "rubbish receptacle". On the other hand, in order to identify some articles accurately, a very long and complicated description is required. For instance, everyone knows what is meant by a chair, but there are many kinds of chairs and to identify only one of them properly, it is necessary to say that it is an arm chair, with frame, or spring seat, back and arms e.t.c. This can be done by using letters or figures or in some cases a combination of both in the form of a stores code. This code is then used to identify all stores items exactly - the chair mentioned above could be indicated by a number such as 50/8/1902 or it could be

a combination of both letters or numerals such as CH 1902.

There are many different kinds of stores codes in use, but most of them are specially designed to suit the needs of the organisation they serve. They may be based on either the nature of stock items or the purpose for which items are meant or upon other basis which is regarded suitable according to the circumstances within the organisation.

When the operation of coding is completed, the list of code numbers or descriptions e.t.c. will be written in a document known as the **Stores Vocabulary.**

1.8 ADVANTAGES OF A CODING SYSTEM

The major advantages of a good coding system are briefly listed as follows:-

i) It accurately identifies all items.

ii) It prevents duplication of items.

iii) It avoids repeated use of long descriptive titles.

iv) It provides a foundation for an efficient purchasing organisation.

v) It forms a convenient basis for the sorting and recording of documents.

1.9 CODE SYMBOLS AND THEIR REPRESENTATION

The importance of developing a coding system is for very symbol used to have a significance of its own. This is to allow for the numbers or letters used in a coding system to say exactly what item is represented.

Let us consider the coding of our stationer stores, using numerals only as symbols. In order to do this, we must first of

all divide the total stationery stock into it's main groups and we follow the splitting of these main groups through various subdivisions until we arrive at the individual item. For example, under stationery, we have duplicating papers of various sizes, typing sheets also of various sizes, stencil papers, carbon papers e.t.c. We can say for example:-

0 Stationeries

1. Duplicating paper 13 x 8

2. " " 10 x 8

3. Typing sheet 13 x 8

4. " " 13 x 8

5. Stencil papers

6. Carbon papers e.t.c.

1.10 METHODS OF CODING

There are various ways of coding. This is by the following methods:-

(a) Coding by the nature of the item

This involves the consideration of all stocked items by making reference to their inherent characteristics. The first stage is to classify similar items into series of main groups such as stationeries illustrated above. This method of coding is very popular and it could be used in many different organisations. It is necessary to state that the classifications or groupings employed in any particular organisation will be arranged to suit that organisation.

(b) Coding by the End use

This is the arrangement of items so as to correspond with the purpose for which the various items are eventually employed. This method is also widely used especially in manufacturing industries where complicated machines are produced.

(c) Other basis of coding

Coding may also be arranged by any other method which is desirable to suit special circumstances e.g. coding by reference to the location of items in the storehouse or to the source of supply e.t.c.

CHAPTER TWO

RECEIPTS AND INSPECTION

2.1 INTRODUCTION

Goods may be received into the storehouse from outside suppliers, from production shops or from other storehouses within the organisation. These goods must be properly looked after when they arrive. The stock records and stores account must also be kept properly and that documentary evidence of satisfactory receipt is required before suppliers' invoices are paid.

2.2 RECEIPTS FROM OUTSIDE SUPPLIERS

The suppliers must be kept informed of the days and times the storehouses will be opened for business. This is to enable the suppliers to know the exact time or days they can deliver their goods to the storehouses.

Whenever orders are place, the storekeeper must be informed about what he is expected to receive and when it is likely to arrive. This is usually done by sending him a copy of the local purchase order form.

The supplier on his own part will prepare advice note and send it to his customer. The advice note will give a description of the goods, the quantity involved, the method of transport and the date of dispatch. The intention is that the advice note should get to the receiving storekeeper before the arrival of the goods.

2.3 CHECKING FOR QUANTITY - GOODS RECEIVED NOTES

When goods finally arrive the storekeeper makes sure that the quantity and description correspond with what has been

advised. This is done by weighing, counting or measuring. If the quantity or weight of delivery correspond with that stated on the advice note, and the goods are not damaged, the storekeeper signs the document to confirm receipt of the goods and returns it to the supplier either by post or to his representative by hand if he is available.

Where goods received are damaged or incomplete, it is necessary to inform the supplier immediately.

When the storekeeper is satisfied with the delivery, he now prepares a separate goods-received note for each delivery. The goods received note consist of the following information:-

i. Date of receipt
ii. Consignor
iii. Consignor's advice note number
iv. Order number
v. Description
vi. Quantity received, undamaged
vii. Number and types of packages
viii. Storekeeper's signature e.t.c.

The goods received note is made in duplicate, the original will be sent to the office to support payment while the second copy will be retained in the storehouse. It is sometimes necessary to have additional copies to notify the user department about receipt of special items or to inform the inspection department.

GOODS RECEIVED NOTE			Serial No.	
Date of Receipt	Consignor		Consignor Advice Note No.	
	Type of Packages	No. of Packages	Order No.	
Vocabulary No.	Description	Quantity Received undamaged	Standard Price	Value
The above stores have been received. Damage/shortage Report No.....Signature..... applies to this consignment Date.....		The above stores are in accordance with the terms of the order as regards quality and are fit for use	Total	
			Invoice No.	
The Stock record has been posted. Signature..... Date.....		Signature of Inspector..... Date		

Fig 2.2.3: Goods-received Note

2.4 DAMAGES AND SHORTAGES

The storekeeper raises a serially damage/shortage report form in any of the following circumstances:-

1. If goods are delivered damaged.
2. If goods received show a shortage in comparison with the supplier's advice note or packing note.
3. If goods have not arrived within the allowed time for the method of carriage.

This form is normally raised in four copies and it is distributed as follows:-

Copy No. 1 to the carrier.

Copy No. 2 to the supplier.

Copy No. 3 to the office responsible for clearing invoices.

Copy No. 4 for retention in the storehouse.

DAMAGE/SHORTAGE REPORT			Serial No.
TO: Carrier		TO: Consignor	
ORDER NO.....			
Vocabulary No.	Description	Quantity Advised	Discrepancy
Signature of storekeeper..... Date			

FIG. 2.4.1: A Damage/Shortage Report

2.4 INSPECTION BEFORE AND AFTER DELIVERY

Where there is no separate inspection department, the storekeeper may be required to undertake the examination of goods for quality as well as quantity. Therefore, he will be given a copy of the local purchase order along with relevant specifications or samples. In this circumstance, the storekeeper signs the goods-received note not only for the receipt of the goods but also for their inspection.

Where goods supplied are technical in nature, a joint inspection will be carried out by both the storekeeper along with

a technical staff representing the user department.

Inspectors have authority to accept or reject materials and endorse goods-received notes accordingly.

However, in a large organisation, particularly Government departments, arrangements may be made for material to be inspected on the supplier's premises and in some cases, examination during the various stages of manufacture may be allowed. In this case, an inspection certificate is given before the goods are dispatched and no inspection is necessary at the point of receipt.

2.6 MARSHALLING OF INCOMING GOODS

This is applicable to a storehouse operating on a large scale basis. Here, it is not practicable to bin or rack goods immediately they are received, therefore, it is necessary to segregate items awaiting inspection and to sort the various articles into groups which are going to be stored in the same locations. In order to be able to achieve this, a marshalling area may be marked on the floor between the unloading dock and the storage area. This is the area where the storehouse staff in conjunction with the inspection staff checks materials both for quality and quantity before they are taken or accepted into the store.

2.7 RECEIPT OF CAPITAL ITEMS

This is applicable where a capital development programme is going on. Under this arrangement, copy orders for the equipment or materials to be treated as capital should be indicated to the storekeeper. It may be necessary to have a special services of

goods-received notes but if not, a relevant document should be specially marked "capital". As far as possible, all capital goods should be placed in a separate location and items associated with individual projects should be kept together.

2.8 METHODS OF ISSUE FOR INTERNAL USE AND ISSUES ON REQUEST

The service given by the stores to other departments becomes effective when a storekeeper makes issues of goods to users and users will judge the efficiency of the stores organisation by the standard of service provided to them.

Before goods are issued out of the storehouse, there must be some authority for the transaction. This is because stores in stock represent money and should not be misappropriated, wasted or improperly used. This authorization may be inform of a signed document, a verbal instruction or a routine arrangement.

However, issues must be organised to correspond with the needs of the organisation and several different methods may be employed in one organisation at the same time for various kinds of stores.

Some of the methods in common use are described below:-

Issues on Request

This is the simplest method and there are three methods:

i. Immediate issue on presentation of an issue note by hand.

ii. Issues after receipt of an issue note by post.

iii. Immediate issues on verbal request only.

Method I:

The orthodox form of issue procedure is where the user comes to the storehouse and presents a properly authorised issue note

or similar voucher giving details of what is required. The storekeeper then selects the items wanted, and hands them over in exchange for the document.

Issue notes may be prepared in any number of copies to suit individual needs but the following is typical -

Copy No. 1 (original). Handed to the storekeeper, then passed to the stock records then to the store accounts section to credit the stock control accounts and debit the cost code chargeable.

Copy No. 2. Handed to the storekeeper and retained by him as evidence of having made the issue.

Copy No. 3. Retained by the user department as evidence of the demand.

<table>
<tr><td colspan="4">ISSUE NOTE</td><td colspan="2">SERIAL NO.</td></tr>
<tr><td>QUANTITY REQUIRED</td><td>DESCRIPTION</td><td colspan="2">JOB NO.</td><td colspan="2">COST CODE</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td colspan="2">VOCABULARY NO.</td><td>STANDARD PRICE</td><td>VALUE</td></tr>
<tr><td colspan="2"></td><td></td><td></td></tr>
<tr><td>AUTHORIZED</td><td>DATE OF ISSUE</td><td colspan="2">ISSUED BY</td><td>TOTAL</td><td></td></tr>
<tr><td rowspan="2">DATE</td><td>RECEIVED</td><td colspan="2">POSTED TO STOCK RECORDS</td><td>SUMMARY</td><td></td></tr>
<tr><td colspan="3"></td><td></td></tr>
</table>

Fig. 2.2.8 Issue Note

Issues on Request - Method II

Under this arrangement, the issue note is sent in either by hand or by post by the demanding department and the physical handing over of stores takes place later, either when the user calls for them at a pre-arranged time or when they are loaded by the storekeeper for delivery. This enables the storehouse staff to have adequate time available for selection and the user or recipient has the advantage that he does not have to wait while the storekeeper finds and assembles whatever is required. This method is applicable when the user is at some distance from the storehouse.

It is also useful where the list of requirements is lengthy e.g. with spare parts for machinery overhauls.

Issues on Request - Method III

In the case of issues on verbal demand on request, the person requires stores calls at the issue counter and states his requirements. The storekeeper then selects the items wanted and hands them over. This procedure is normally used only for items of comparatively small value which are required at short notice such as hand tools, nuts and bolts, cleaning materials, lubricants e.t.c. The storekeeper is expected to know all his customers by sight and would not therefore take issues to a stranger without some inquiry.

2.9 LOAN ISSUES AND ALLOCATED STORES

As a general rule, the issue of items on loan from the storehouse should not be encouraged, but it is sometimes unavoidable. These are items that may or may not be on store

charge but they are controlled by the storekeeper and kept in the storehouse when not in use. It is necessary to keep stock records for the equipment concern and also to maintain a register showing all loans made in date order. Here the person making request for loan should sign for everything issued to them and sign again when items are returned to store.

Allocated stores are mostly applicable in a manufacturing company. In accordance with manufacturing schedules, some materials may be received on a programmed-delivery basis and kept for use only on the production line for which they have been purchased. This is done to make sure that there will be no interruption of production and the storekeeper will check that issues are not made elsewhere. For example, 20mm diameter bright-steel bar to a given specification may be allocated to the production component "ZYZ". If the maintenance department wishes to have some of this material to repair a machine, it cannot be issued unless the maintenance manager can obtain special authority from some senior official, such as the works manager.

Another type of allocation is that certain items are reserved for specific jobs or purposes to avoid the unnecessary use of material which is expensive or in very short supply.

The storekeeper must be informed of all allocations and enter appropriate particulars on his records, and issue notes relating to allocated materials should indicate the purpose for which these items are required.

2.10 PURPOSES OF STOCK RECORDS

It is necessary to decide how much information is to be shown on the records, where they are to be kept and whether they

are to be entered by pen-and-ink method or by machine. All these questions need to be properly scrutinized because the number of transactions handled by the stores department is frequently very substantial. In practice therefore, when a system of stores recording is being set-up, it is important to examine every detail very carefully so as to ensure that the entries to be made on the stock records are limited to what is required or essential for efficient working. Stock records are expected to show particulars of receipts, issues and balances remaining in stock for each individual item held in the storehouse from day to day. This is necessary because a system of stock records of this kind indicate at any time the quantity of goods on hand.

The reasons for keeping stock records are;

i. To indicate the amount of stock of any item at any time without it being necessary for the stock to be counted physically.

ii. To establish a link between the physical stock and stores account.

iii. To provide a means to determine how much should be ordered to maintain stocks at the required level.

iv. To supply information for stocktaking, whereby the quantity of all items in the storehouse ascertained by physical checking are compared with the corresponding quantity balances on the records.

v. To provide a method of informing storehouse staff of the location of goods in the storehouse.

vi. To serve the purpose of a price list. If unit prices are given on the stock records, they can be used to price all

stores documents which are posted to the records.

2.11 BIN CARDS, STOCK RECORD CARDS AND FORM OF RECORDS

(i) Bin Cards

The use of bin cards is desirable to keep a record with the physical stock itself. This is done by attaching bin cards to the bins or racks containing the stock items, using a separate card for each item of stock. These cards are usually very simple, giving a description of the item including it's vocabulary number, the unit of issue, the quantities received and issued and the balance remaining in the bin.

(ii) As opposed to bin cards, stock record cards are kept together in one place. These record cards could be held either in or very near to the storehouse building. This allows for easy contact between the clerks keeping records and the storehouse staff responsible for receipts, issues and stocktaking and queries or mistakes can be settled quickly without the need for telephone calls or written inquiries and explanations. At the same time, the transit of the various documents used is limited to the barest minimum and there is therefore a better opportunity of keeping the records up to date.

| STOCK REVIEW CARD | | |

CHAPTER THREE

STOCK CONTROL, STOCK TAKING AND STOCK CHECKING

3.1 INTRODUCTION

According to A. Morrison on his book "Storage and Control Stock", stock control is the means by which material of the correct quantity is made available as and when required, with due regard to economy and ordering costs, purchase prices and working capital.

This involves the following processes:-

i. Assessing the items to be held in stock

ii. Deciding the extent of stock holding of items individually and collectively.

iii. Regulating the input of stock into the storehouses.

iv. Regulating the issue of stock from the storehouses.

The above processes makes it possible to adjust continuously the quantity and value of stock held to conform to circumstances at all times.

3.2 ASSESSMENT OF ITEMS HELD IN STOCK

It is first of all necessary to consider what items are used and produced by the particular concern, and then to decide which of those should be stocked.

We hold stock so as to provide a reservoir of material to absorb the effects of variations in delivery and consumption and to maintain the ready availability of supplies within the organisation concerned. It is normally found necessary to hold stocks of materials which are regularly used and also items which may be required at short notice.

Theoretically, if deliveries of materials from suppliers can be arranged exactly to meet operational demands from day to day, there will be no need for stockholding. In practice, this arrangement can

be applied satisfactorily to maintenance materials and general stores which are not operationally vital and are used at irregular intervals.

3.2 REASONS FOR HOLDING STOCK AND GENERAL STOCKLIST

In practice, every organisation whether private or public, undertakings have storehouses and it finds it necessary to keep stores in stock for one or more of the following reasons:-

i) Delivery cannot be exactly matched with usage day by day.

ii) Discounts or improved prices for bulk purchases more than offset the cost of storage.

iii) Operational risks or possible changes in programme require the holding of stock as a precaution against serious breakdown or interruption of production or other activities.

iv) For finished products where the holding of a buffer stock between the manufacturer and customer is essential.

v) Owing to fluctuations in the price of a commodity, it is considered desirable to lay in stocks when prices are low.

vi) Some items appreciate in value during the time of storage, e.g. wines and spirits.

(a) GENERAL STOCK LIST

In a small organisation, the contents of a storehouse are reasonably well known to all concerned, and users in the various departments have personal knowledge of what is available from stock, especially if the range of stores carried is not very expensive. In a big organisation, however, this is not so easy, and some routine method must be devised to inform production and other user departments which items are normally kept in the storehouses or stockyards ready for issue "off the shelf". This can be done conveniently by preparing

3.4 PHYSICAL SECURITY - RESPONSIBILITY FOR HOLDING STOCK

Stock represents cash and, invariably, cash is looked after very carefully. A cashier is appointed to control it; it is locked up in safes when not in use. In like manner, since stock is the equivalent of cash, it follows that it should be carefully protected, counted and checked in a similar way, but there are many organisations where the arrangements display a looseness and lack of system which would not be tolerated in the cash office, in spite of the fact that the value of stock is frequently very much greater than that of cash held.

(a) PHYSICAL SECURITY

If stock is to be adequately safeguarded, it must be properly located in secure buildings or stockyards and unauthorised persons are not allowed access, arrangements must be made for the custody of storehouse keys, and security precautions exercised during non-working hours.

(b) RESPONSIBILITY FOR STOCK

The person who is immediately responsible for the care and custody of stock should be clearly designated, it will normally be the storekeeper in charge of a storehouse or section. His responsibilities should be made known to all concerned, and he must be given proper authority and facilities to fulfil his duties. No stockholding should take place without his knowledge and no discrepancies should be declared unless he has been given an opportunity to investigate the position.

3.5 PURPOSES OF STOCKTAKING

Physical stocktaking is the process of counting, weighing or otherwise measuring all items in stock and recording the results.

The reason for stocktaking are as follows:-

i) To verify the accuracy of stock records.

ii) To support the value of stock shown in the balance sheet by physical verification.

iii) To disclose the possibility of fraud, theft or loss.

iv) To reveal any weakness in the system for the custody and control of stock.

3.6 TYPES OF STOCKTAKING

There are two methods of stocktaking: periodic and continuous.

(a) PERIODIC STOCKTAKING

In periodic stocktaking, the whole of the stock is covered at the time at the end of a given period, usually the end of the financial year. In theory, stock should be taken at the close of business on the balance-sheet day, but in a large organisation, it may quite impossible to do all the work in one day, and the operation has to be extended over several days. The stocktaking need to be done only once a year, it may be carried out as often as seems desirable.

For a satisfactory stocktaking, a good deal of preparation is necessary. First of all, a programme should be drawn up and agreed with every department in the organisation, especially the finance department and the audit unit. Secondly, stocktaking sheets or cards must be prepared in advance and thirdly, all officers concerned must be instructed in their duties.

When the physical counting of the work has been completed, all stock sheets should be collected and arranged in classification order, in accordance with the value of each entry extended and a total shown. By adding up these totals, the value of stock in each classification can be obtained. The sum of these classification totals will give the

grand total value of stock on hand as verified by physical examination. Precautions must be taken to ensure that all stock sheets are returned and that the calculation is checked. After the stock records are checked, the next step is to compare the individual entries on the stock sheets with the appropriate record cards and enter the actual quantity found at the stocktaking date on the records. Where this quantity does not agree with the balance shown on the record cards, then the balance on the stock record should be reconciled with the Tally Card balance bearing in mind that the physical stocktaking is the factual one and therefore takes priority and the balance on the card must be amended. If there is a major discrepancy discovered, then investigation must be carried out to discover and find out why they have arisen. All surpluses and deficiencies established should be valued and written on or written off as the case may be respectively. This is to ensure that the balances on the control accounts are adjusted so as to agree with the total value of stock verified by the physical stocktaking.

(b) CONTINUOUS STOCKTAKING

Continuous stocktaking is the method whereby stock is taken continuously throughout the year in accordance with a pre-determined programme so that each item is physically verified at least once in the course of the year, or more frequently if required. This can be successfully carried out if complete detailed stock records are kept showing receipts, issues and balances on hand. This programme should be designed in such a way that a certain number of stock items are taken on every working day such as fast moving stocks. The methods of continuous stocktaking are the same with that of periodic stocktaking, but there are some significant differences such as the following:-

i. There is no need to close down the stores or the works while stocktaking is in progress.

ii. The normal posting of receipts and issues on the stock records can continue without interruption.

iii. The work can be done by a few specially appointed experienced and trained stocktakers who are completely independent of the storekeeping staff.

iv. Stocktaking results from days to day as they arise and any discrepancies disclosed should be thoroughly investigated in detail.

(c) STOCKTAKING PROCEDURE

"Blind" Stocktaking

This is the name given to the system whereby the person taking stock is not given prior information about the vocabulary numbers, descriptions, stock record balances or even locations of the items he is to check, at the same time, he is not allowed access to stock-record cards or bin cards. The outcome will be more reliable as the stocktaker has no knowledge of what is supposed to be in stock. He has to locate and identify stores himself, he is obliged to count every item and he not exposed to any temptation to skimp his work by accepting identifications or quantities as they appear on the stock-record cards.

This system is laborious and slow, because it requires more staff and except the personnel concerned are experienced and have first class knowledge or the physical characteristics of the stock held, there is bound to be errors arising because of faulty identification.

However, blind-stocktaking can be modified by providing the stocktaker with locations and identifications, but withhold from him

the quantity balance on the stock records. This tends to speed up the work substantially.

(d) STOCKTAKING BY STOREKEEPERS

It is better to seek the help of storekeepers in the process of stocktaking. This is because of their knowledge of stocks and where they are kept, they are able to find and identify items quickly. However, it is ideal to have a storekeeper and another person who is not a store staff, thus combining speed of operation with independence of check.

Sometimes, storekeepers are required to take stock of their own store for balance-sheet purposes without outside assistance or supervision. This practice is not recommended because it not only exposes the storekeeper to the temptation of concealing genuine discrepancies so as to avoid criticism of his work, but it also provides opportunities for deliberate fraud. It is better to have the stocktaking done by full-time stocktakers, internal audit or finance staff.

(e) STOCK CERTIFICATE

Irrespective of whether stocktaking is carried out by the periodic or by the continuous method, at the end of the financial year a stock certificate is signed by a senior member of the management. This document is a declaration of the value of stock on hand, and usually there is a list attached showing the amount involved in each storehouse and/or in each classification. The certificate is further supported by all the individual stocktaking sheets.

3.7 TREATMENT OF DISCREPANCIES (OBSOLESCENCE) AND REDUNDANCY

A discrepancy exists when the amount of stock found by physical examination fails to agree with the balance on the stock records. If the stock found exceeds the recorded figure, there is a surplus and, conversely, if the physical stock is less than the book figure, there is a deficiency or shortage.

However, minor discrepancies can arise where there are limitations to the accuracy of stocktaking especially where large numbers or quantities are concerned, whether the check is by count, weight or measurement. For example, in measuring 1,000 metal bars of random length, no two people are likely to get the same result to the nearest foot. Similarly, in weighing half a tone of loose bolts, some slight variation may be expected because of the degree of accuracy of the scales or the reading of them. If, therefore, discrepancies of small proportions appear to be found, in such circumstances, it is often as well to leave the book stock unaltered unless the amount of money involved is significant.

This point applies particularly where the methods of measurement are known not to be of great accuracy, e.g. the use of dip-sticks in large tanks or, more obviously, the stocktaking of loose piles of sand, coal or bricks, where only an estimate can be made.

However, stockholders should seek the agreement of the storekeeper concerned before declaring discrepancy on any item. This is because of the following reasons:-

i) There may be duplicate locations of which the checkers are not aware of, but the storekeeper should know of them.

ii) It is expected that the storekeeper has a better practical knowledge of his stock than anyone else, and he may be able to

convert errors on the part of the stocktakers, particularly errors of identification.

iii) It gives the storekeeper an opportunity to explain or correct the difference if he can, and ensures that he is aware of discrepancies which may reflect upon the performance of his duties.

When the storekeeper has been called in and he fails to explain a difference, he should sign the stock sheet to indicate his agreement that the discrepancy is genuine.

i) <u>INVESTIGATION OF DISCREPANCIES</u>

After the stocktaker and storekeeper have agreed that the discrepancy exists, the procedure depends upon the nature and value of the discrepancy. Large amounts are more worthwhile investigating than small amounts. More concern is felt about deficiencies than about surpluses. The degree of investigation is a matter of judgement in the circumstances of each case. The following steps are taken whenever a discrepancy is investigated:-

i) Examine the record card since the date of the last check so as to ensure that there are no arithmetical errors, omissions or duplications in posting.

ii) Ensure that there has been no confusion over units of issue.

iii) Examine stores kept in neighbouring locations to see if a balancing discrepancy exists on another item.

iv) Check the basic documents (i.e. receipt, issue, transfer, return-to-stores notes etc) for any exceptionally large or apparently unusual transactions.

v) Have the physical stocktaking verified by an independent senior official.

vi) Interrogate the storekeeper to find out if he has any explanations or suspicions as to how the discrepancy has arisen.

vii) Examine the results of the last stocktaking to see whether there was a discrepancy on that occasion. In odd cases, it may be found that a deficiency at one stocktaking is followed by a surplus on the next and this may be because the first check was inaccurate.

viii) Make enquiries of user departments in case there may have been issues from or returns to store without documentation outside normal working hours.

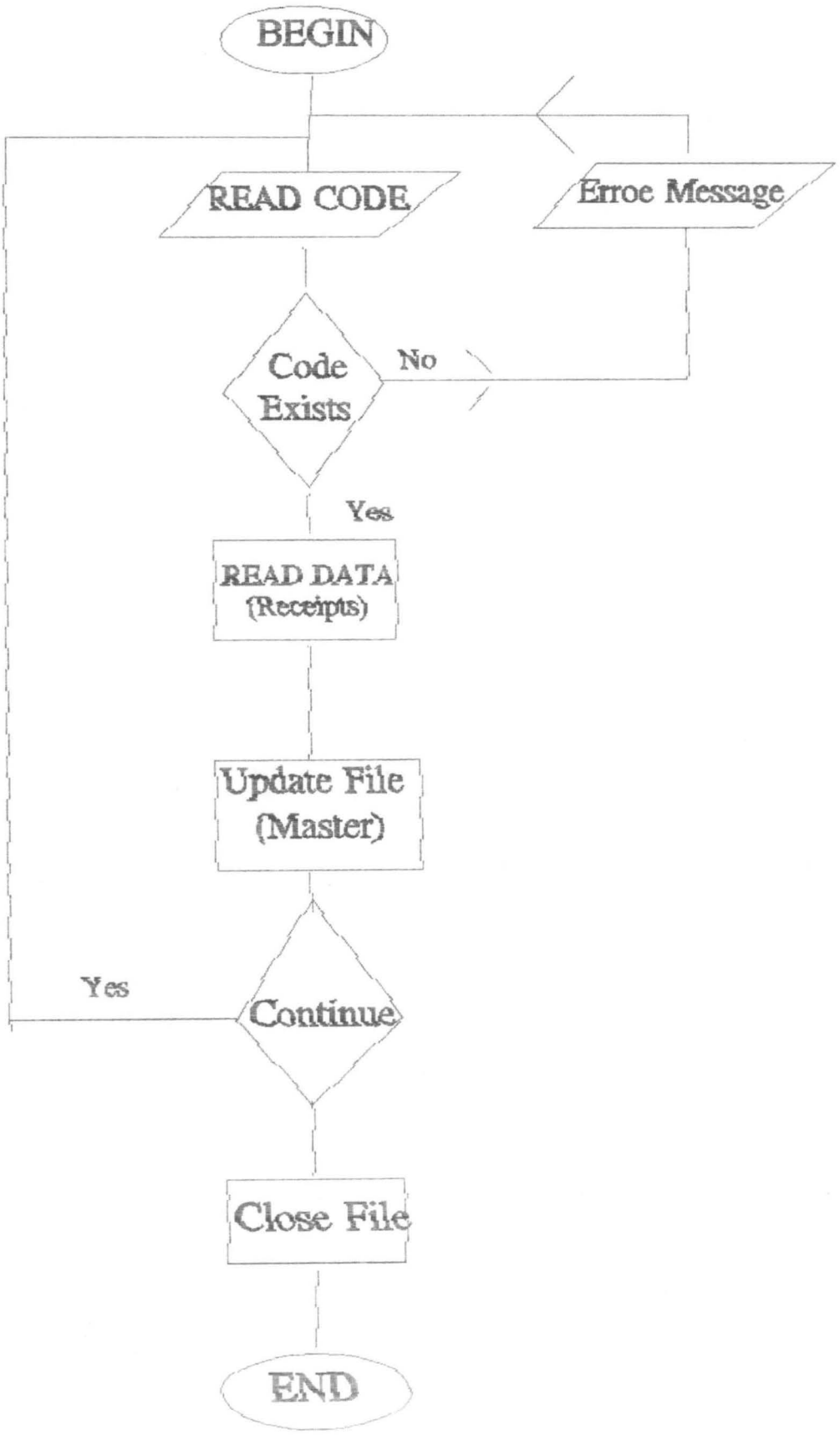
ix) In serious cases, where theft or fraud is suspected, call in the police.

x) Where necessary, review and tighten up physical security measures and documentary procedures.

ii) **ADJUSTMENT**

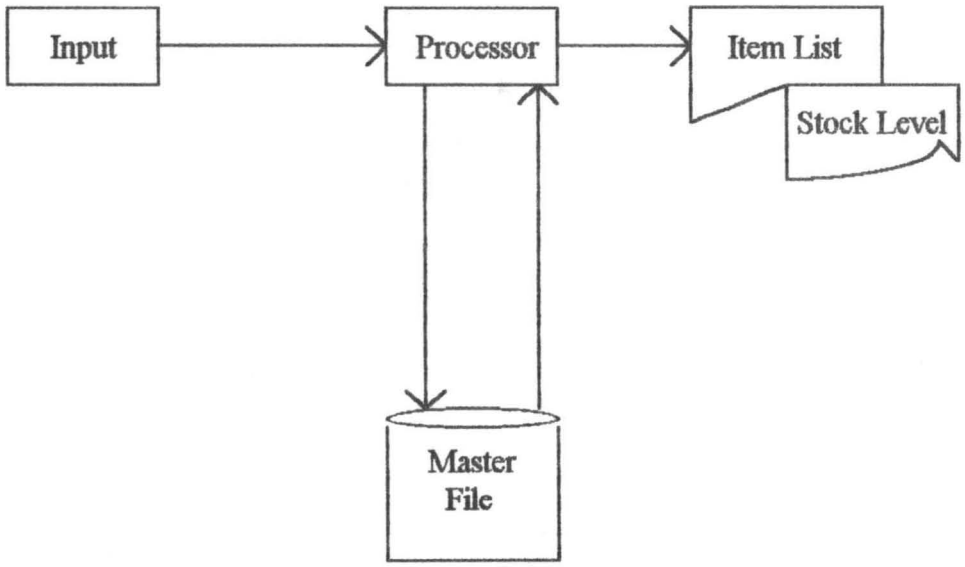
After investigation, both stock records and accounting require adjustment in respect of declared discrepancies This may be done direct from stock sheets or by a special Discrepancy Report Form, listing all the items concerned including their vocabulary number, Description, unit of issue, quantity, unit price, value e.t.c.

It is normal practice for discrepancy forms to be approved by the stock controller or some other appropriate authority before the adjustments are made to the accounts, and the discrepancies are summarized to show the net surplus or deficiency on each classification.

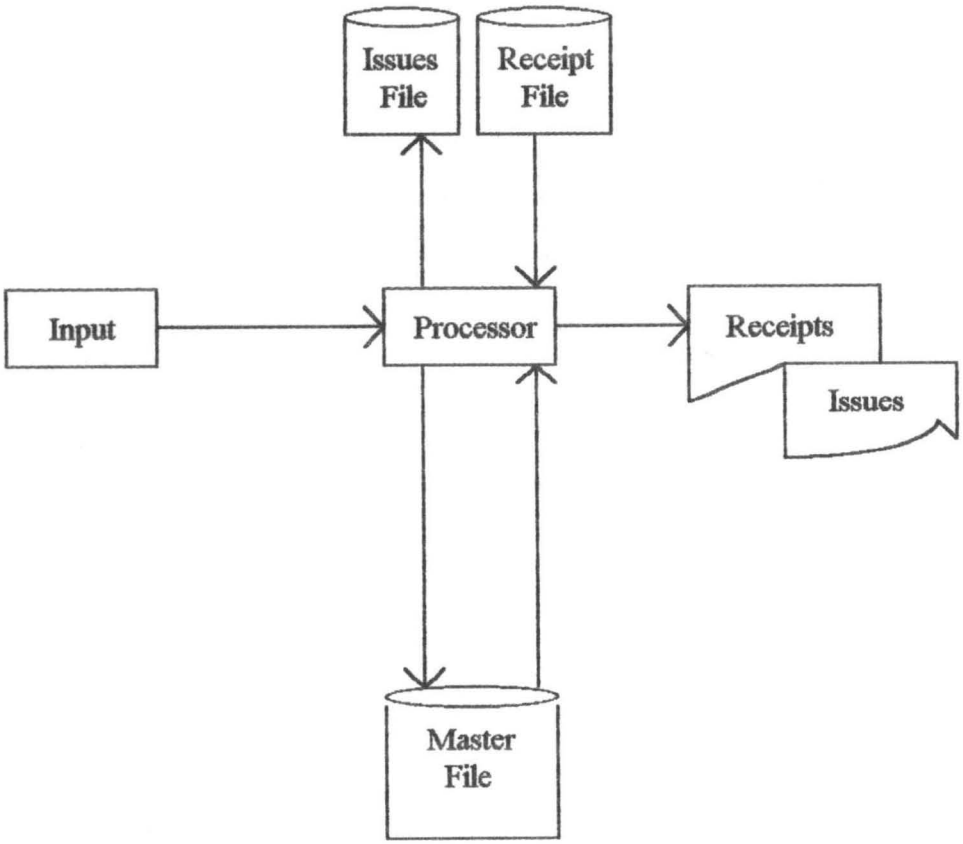

BEGIN
READ CODE
Erroe Message
Code Exists
No
Yes
READ DATA (Receipts)
Update File (Master)
Yes
Continue
Close File
END

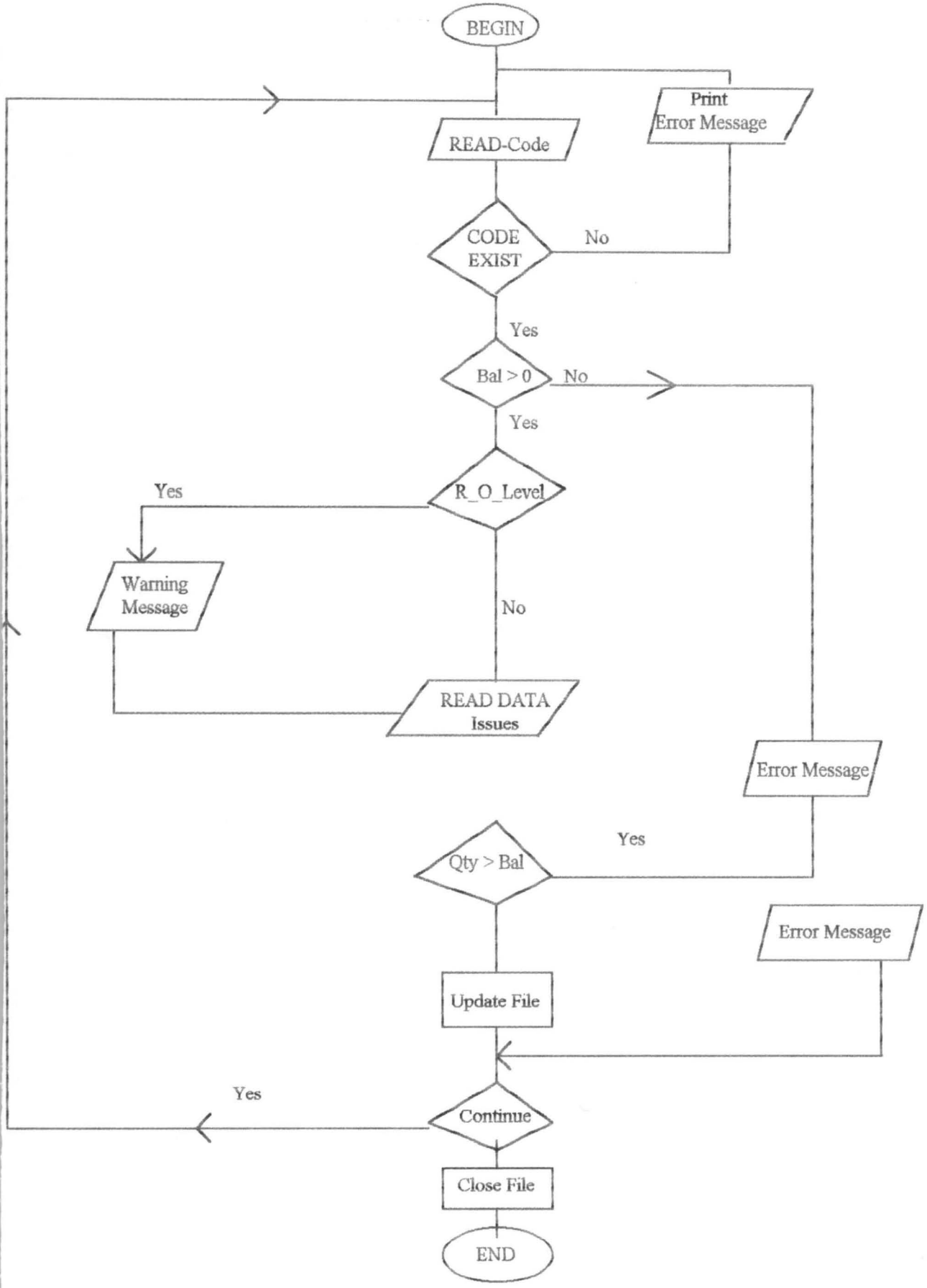
STATIONERY STOCK SYSTEM FLOWCHARTS

A)



B)




BEGIN
Print
Error Message
READ-Code
CODE
EXIST
No
Yes
Bal > 0
No
Yes
R_O_Level
Yes
Warning
Message
No
READ DATA
Issues
Error Message
Yes
Qty > Bal
Error Message
Update File
Yes
Continue
Close File
END

i) A graphic illustration that depicts the fundamental operation of the intended system (e.g. Data flow diagrams).

ii) A written explanation of the graphic illustration.

iii) A General description of the outputs to be produced by the system, including display screen and hard copy report and documents (the actual layout, for example, spacing on the page or screen is not completed until the detailed system design stage).

(2) Data Base Design

The data base is the common denomination of any system. It contains the raw materials (data) necessary to produce output. In manufacturing for example, it is only when the product to be made is decided upon that raw materials could be specified and ordered. In the process of developing an information system, output requirements are first decided upon before input data are specified. The output requirement can be thought of as an input to data base design.

(3) Detailed System Design

The detailed input/output, processing and control requirements, which this stage entails is the result of the analysis of user feedback on the general system design. The general system design depicts relationship before major processing activities and is detailed enough for most users to determine whether or not that is what they want. The detailed design includes all processing activities and the input/output associated with them.

4.4 Flowchart/Algorithm

Flowchart is graphic technique developed for the purpose of representing symbolically the processing of data for and by the

computer system. While algorithm is a finite set (or sequence) of instructions or operations for carrying out a specific task or solving a specific problem. The specific purposes of flowcharting are:-

1. To provide a systematic method of working out the processing logic of a system/program.
2. To document that logic:
   (a) For the programmer to see as a guide for coding, debugging, and
   (b) To serve as a communication link with staff who will have to understand the programme at some later date.

4.5 Stationery Stock Control System Database File Structure

1. **5 Mast.dbf**

No	Field Name	Type	Width	Dec.	Ind.
1	CODE	Character	5		Y
2	DESC	Character	20		N
3	MIN	Numeric	4		N
4	MAX	Numeric	4		N
5	R.O.L	Numeric	4		N
6	U.PRICE	Numeric	9	2	N
7	S.BAL	Numeric	6		N
8	S.VALUE	Numeric	12	2	N

2. **SRECEIPT.DBF**

No	Field Name	Type	Width	Dec.	Ind.
1	CODE	Character	5		Y
2	DESC	Character	20		N
3	QTR.R	Numeric	5		N
4	MAXDATE.R	Numeric	8		N
5	U.PRICE	Numeric	9	2	N
6	LPO.NO	Numeric	3		N
7	SUPPLIER	Character	20		N

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Stationery Stock Issues Transaction Report

Date Page

Code	Description	Qty. Issue	Width	Ind.
xxx	xxxxx	999	999.99	99/99/99
xxx	xxxxx	999	999.99	99/99/99

2. **SISSUES.DBF**

No	Field Name	Type	Width	Dec.	Ind.
1	CODE	Character	5		Y
2	DESC	Character	20		N
3	QTY.I	Numeric	5		N
4	U.PRICE	Numeric	9	2	N
5	DATE.I	Numeric	8		N
6	SIU.NO	Numeric	3		N

STATIONERY STOCK REPORT LAYOUT

1. FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

Stationery Stock Level Report

Date Page 99

Code	Description	Min	Max	R.O.Level	Unit Price	Stock Level	Stl. Value
xxx	xxxxx	999	999	999	999.99	999	9999.99
xxx	xxxxx	999	999	999	999.99	999	9999.99

2. FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

Stationery Stock Receipts Transactions Report

Date Page

Code	Description	Qty. Received	Unit Price	Receipt Date
xxx	xxxxxxxx	999	999.99	99/99/99
xxx	xxxxxxxx	999	999.99	99/99/99

4.6 SYSTEM EXPERIMENTATION

After the design stage, the programs were written and coded. These programs were in modules.

During the testing of these programs, each module was thoroughly tested with "tested-data". After this phase of testing, all the programs were integrated and tested together as a single system.

The next stage of testing was done with "live data". The results obtained were compared with what was from the manual system and found satisfactory.

This trial stage of testing, enabled the commencement of the conversion from old system to the new system. The new system is as follows:-

4.6 Running Stationery Stock Control System

After the computer has been successfully booted, type at c:\> prompt the following:

c:\> cd\DBASE and Enter

c:\>DBASE> DBASE and Enter.

At the control center of dBASE IV, press [ESC] key and letter Y to go to dot mode.

At dot mode, type

Do Stock and Enter

The system menu then appears. Throughout this program, press first letter of any option or highlighted letter of option (to be precise) to select the option.

1. Stationery File Maintenance

Press letter s to select the option to go into stationery file maintenance menu.

1.1 **Add new stationery items**

Press letter A to add new items. Enter new item code. Note that it must be a non-existing code-meaning that such code must have not been given to another item. Enter details of this item and press C, E or A.

C = cancel entry and continue, E = save and exit and

A = cancel entry and continue.

1.2 Modify Stationery Item Data

Press letter m to select this option. Enter existing item code and effect changes, then select C, E or A. If invalid code is entered, the message "ITEM CODE NOT FOUND! PRESS ANY KEY" will be displayed.

1.3 **Delete Stationery Item Data**

Press letter D to select this option. Enter item code to be deleted. Press D to delete or A to abandon or cancel operation.

1.4 **View Stationery Items**

Press letter V to view stationery items. Use up and down arrow key to move through the records. Press [ESC] key when done.

2. **Receipts Transactions**

Transactions regarding the receipts of stationery items are managed in this section.

Press letter R from the main menu.

2.1 **Add New Receipts**

Press letter A to select this option. Enter item code or [xxxxxx] to return to menu.

This code must be an existing one. Then enter receipts details and press C, E or A.

2.2 Delete Receipts Transactions

Press letter D to select this option.

Enter item code whose receipt transaction is to be deleted. Also supply LPO number and receipt date. If such transaction exists, then press D to delete or A to abandon operation otherwise an error message "RECEIPT TRANSACTION NOT FOUND! PRESS ANY KEY" will appear

Press any key to leave this point and enter another code or [xxxxxx] to exit.

2.3 View Receipts Transactions

Press letter V to display receipt entries. Use Up and Down arrow keys to go through the file and press ESC to exit.

4. Generate Report

To print report, press C to go to report menu. From the report menu, press

i. S to print stationery items list.

ii. R to print receipts transaction

iii. I to print issues transactions

iv. L to print stock level report

and press Y and N in response to the question "IS THE PRINTER READY? (y/n). Ensure that the printer is ready before pressing Y, otherwise press letter N.

SIGNING OFF

In every menu of the stationery stock control system, there is the EXIT option. This option takes the user back to the previous menu. But from the main menu, it returns to dot mode by closing down the stock system. This marks the end of current session.

From the dot prompt, type QUIT and press enter key. This command

closes all files and ends dBase run. Finally, it returns to DOS prompt, and the computer is ready for another work/command.

4.7 Stock Control Program Menu Design

Below are the menu design for the stock control program developed during this project.

a. MAIN MENU

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(BURSARY DEPARTMENT)

STOCK CONTROL SYSTEM

MAIN MENU

STOCK ITEM FILE MAINTENANCE

Receipts Transactions

Issues Transactions

Generate Report

Select action desired

b. ITEM FILE MAINTENANCE MENU

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

STATIONERY ITEMS FILE MAINTENANCE

Add new stationery items

Edit stationery item

Delete stationery item

View stationery item

Return to main menu

Press 1st letter of option desired

c. **RECEIPTS TRANSACTIONS MENU**

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

RECEIPTS TRANSACTIONS FILE MAINTENANCE

New receipts transactions

Edit receipts transactions

Delete receipts transactions

View receipts transactions

Return to main menu

Press 1st letter of option desired

d. **ISSUES TRANSACTIONS MENU**

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

ISSUES TRANSACTIONS FILE MAINTENANCE

New issues transactions

Edit issues transactions

Delete issues transactions

View issues transactions

Return to main menu

Press 1st letter of option desired

e. **STOCK REPORT MENU**

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

STATIONERY STOCK REPORT MENU

Stationery items list

Receipts transactions

Issues transactions

Stock level

Exit

Press 1st letter of option desired

vi) Interrogate the storekeeper to find out if he has any explanations or suspicions as to how the discrepancy has arisen.

vii) Examine the results of the last stocktaking to see whether there was a discrepancy on that occasion. In odd cases, it may be found that a deficiency at one stocktaking is followed by a surplus on the next and this may be because the first check was inaccurate.

viii) Make enquiries of user departments in case there may have been issues from or returns to store without documentation outside normal working hours.

ix) In serious cases, where theft or fraud is suspected, call in the police.

x) Where necessary, review and tighten up physical security measures and documentary procedures.

ii) <u>ADJUSTMENT</u>

After investigation, both stock records and accounting require adjustment in respect of declared discrepancies This may be done direct from stock sheets or by a special Discrepancy Report Form, listing all the items concerned including their vocabulary number, Description, unit of issue, quantity, unit price, value e.t.c.

It is normal practice for discrepancy forms to be approved by the stock controller or some other appropriate authority before the adjustments are made to the accounts, and the discrepancies are summarized to show the net surplus or deficiency on each classification.

iii) OBSOLESCENCE AND REDUNDANCY

(A) Obsolescence

An item is said to be obsolescent when it is going out of use but it is not yet completely unusable. For example, the Volkswagen Beetle car. From the date when this is phased out, most of the spare parts in stock for Volkswagen Beetle car becomes obsolescent. This does not mean that they are immediately worthless, because they can be used for repairing the various Volkswagen Beetle cars which are still in service. On the other hand, the number of Volkswagen Beetle cars maintained will decline as time goes on and they will eventually be disposed off. It is extremely unlikely that the spares in stock will be used to the very last item and there is an expectation that some of them will be on hand when all the Volkswagen Beetle cars are withdrawn. Therefore, there is a likelihood of loss by virtue of the fact that these remaining spares will have to be sold and probably fetch only scrap value.

(B) Obsolete

An item is regarded as obsolete when it is no longer usable by the business concerned, because of a change in operational practice or production methods. For instance, in the example quoted above, when all the Volkswagen Beetle cars have disappeared, the Volkswagen Beetle spares will no longer be obsolescent, but obsolete.

(C) Redundant

When all quantity of an item in stock is more than is reasonably necessary to provide and adequate service to the production or operational activity, the excess over the normal holding os said to be redundant.

(D) Review

In most organisations, some degree of obsolescence or redundancy is inevitable. It is therefore desirable to review all stock held from time to time so as to identify items which are obsolete and redundant. This is usually done once a year. The review may be combined with the normal stocktaking operation or done independently on a periodic basis or on a continuous basis.

3.8 DETERIORATION OF MATERIALS IN STORE-STOCK CHECKING

It sometimes happens that materials in stock deteriorate for any of the following reasons:-

a) The inherent nature of the materials is such that it deteriorates in the course of time e.g. fresh fruit, unstable chemicals.

b) Inadequate storage conditions e.g. cement gets damp and solidifies, steel becomes rusty, stationery becomes dirty.

c) Damage in store through accident or bad handling e.g. Electric light bulbs may be dropped and broken, Typewriter ribbon e.t.c.

Where this happens, the stock will not be worth the value at which it stands in the accounts and adjustments must be made to rectify this state of affairs by reviewing the stock concerned. Arrangements should be made to estimate the value to be written off according to the amount of deterioration which has taken place for each individual stock item. This operation can be carried out at the same time as stocktaking or along with the review of obsolescence and redundancy. In special circumstances, e.g. if there has been a fire or a serious flood in the storehouse, the review of stock for deterioration may be a completely separate exercise.

A. STOCK CHECKING

i. Checking Receipts

Receipts into store are normally checked for quantity by weighing, counting or otherwise measuring. If this is properly done it provides a good foundation for all subsequent operations by ensuring that as far as it is practicable, the quantities taken on stores charge are correct in the first instance. In some organisations, the process is carried further by checking not only the incoming consignment but also the remaining stock already on hand at the time that the new consignment is put away in its place in the storehouse. However, this depends upon several factors such as the value of the item, the nature of the goods e.t.c.

ii. Checking Issues

This should be a matter of routine for the storehouse staff to check the quantities and descriptions of all issues made before they are handed over. It is also required of the recipient to counter-check the quantity received and to sign for it. This provides a reasonable assurance that quantities taken off stores charge are correct.

iii. Spot Checking

This is the practice of making random checks of some stores items at irregular and unspecified intervals. This is often done by senior stores officials in the course of their supervisory duties. This could also be operated in parallel with the stocktaking programme regardless of whether the periodic or continuous method of stocktaking is in use. Where periodic stocktaking method is used, spot checking throughout the year is the best. This is to safeguard against malpractices during the period between stocktaking.

CHAPTER FOUR

DESIGN AND IMPLEMENTATION OF STORAGE AND STOCK CONTROL SYSTEM

4.1 Introduction

This chapter examines the use of computers both in general terms and as applied to stock and stores control. The significance if such an examination for stock controllers is the relative cheapness of computers and their local (i.e. within the stock control function) availability. This is an important development for an area of work which involves the twin pressures of service and control investment. The ability to monitor stock closely, with rapid information retrieval and immediate action is paramount in stock control and remoteness of the control system is unacceptable.

4.2 Analysis and Demerits of Manual System

After carefully analysing the manual system, the following are the demerits of the manual system:-

(a) The manual system is slow in yielding results.

(b) The manual system is not accurate.

(c) The manual system cannot effectively handle bulky/large stores.

4.3 Storage and Stock Control System Design

The system design stage of this project produces three basic output as follows:-

1) General System Design

2) Data base design and

3) Detail System Design

(1) General System Design

At a minimum, the documentation of the general design of the intended system includes the following:-

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(WORKS DEPARTMENT)

STATIONERY STOCK CONTROL SYSTEM

STATIONERY FILE MAINTENANCE

RECEIPTS TRANSACTIONS

ISSUES TRANSACTIONS

GENERATE REPORT

E X I T

Press 1st letter of your choice.

NumCaps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

STATIONERY STOCK CONTROL SYSTEM

STATIONERY FILE MAINTENANCE

RECEIPTS TRANSACTIONS

ISSUES TRANSACTIONS

GENERATE REPORT

E X I T

Press 1st letter of your choice.

NumCaps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

RECEIPTS TRANSACTIONS FILE MAINTENANCE

Add new receipts transactions

Delete receipts transactions

View receipts transactions

E x i t

Press 1st letter of your choice.

Caps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

RECEIPTS TRANSACTIONS FILE MAINTENANCE

NEW RECEIPTS TRANSACTIONS ENTRY

ITEM CODE |XXXXX|=Exit 01
ITEM DESCRIPTION FILE TAGS
QUANTITY RECEIVED 130
UNIT PRICE 197.57
LPO NUMBER 1002
SUPPLIER KENDO BOOKSHOP, MX
RECEIPT DATE 12/07/97

|C|ontinue |E|xit |A|bandon

Caps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

RECEIPTS TRANSACTIONS FILE MAINTENANCE

CODE	DESC	QTY_R	DATE_R	U_PRICE	LPO_
03	Q/S PAPER	40	09/02/97	78.90	1039
04	FUT FILE JACKET	29	04/06/97	14.78	988
03	Q/S PAPER	500	17/06/97	23.98	112
01	FILE TAGS	130	12/07/97	197.57	1002

Press |Esc| key to exit...

Caps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

ISSUES TRANSACTIONS FILE MAINTENANCE

NEW ISSUES TRANSACTIONS ENTRY

ITEM CODE |XXXXX|=Exit 01
STOCK BALANCE 130
ITEM DESCRIPTION FILE TAGS
UNIT PRICE 197.57
QUANTITY ISSUED 15
SIV NUMBER 1873
ISSUE DATE 01/06/97

|C|ontinue |E|xit |A|bandon

Caps

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

ISSUES TRANSACTIONS FILE MAINTENANCE

CODE	DESC	QTY_I	U_PRICE	DATE_I	SIV_
03	Q/S PAPER	7	81.50	02/05/97	133
04	FUT FILE JACKET	4	14.78	02/06/97	455
04	FUT FILE JACKET	5	14.78	12/06/97	45
01	FILE TAGS	15	197.57	01/06/97	1873

Press |Esc| key to exit...

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

STATIONERY STOCK RECEIPTS REPORT

: 28/07/97 PAGE 1

ITEM DESCRIPTION	LPO NO	QTY RECEIVED	UNIT PRICE	DATE RECVI
Q/S PAPER	1039	10	78.90	09/02/9
FUT FILE JACKET	988	29	14.78	04/05/9
Q/S PAPER	112	500	23.98	17/06/9
FILE TAGS	1002	130	197.57	12/07/9

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
(BURSARY DEPARTMENT)

STATIONERY STOCK ISSUES REPORT

: 28/07/97 PAGE 1

ITEM DESCRIPTION	SIV NO	QTY ISSUED	UNIT PRICE	RECEIPT DATE
Q/S PAPER	133	7	81.50	02/05/97
FUT FILE JACKET	455	4	14.78	02/06/97
FUT FILE JACKET	45	5	14.78	12/06/97
FILE TAGS	1873	15	197.57	01/06/97

CHAPTER FIVE

CONCLUSION

PROBLEM AND RECOMMENDATION.

5.1 Conclusion

In concluding this project however, it may be opportuned to mention again the question of conversion of resources. This is necessary so as to save cost as much as possible. We have now passed through the whole complex of the stores operation including computerising the stores procedure which includes receipts, issues, viewing etc of the whole store procedure. It is hoped that the reader has been converted (if he needed conversion) to the view that stores operation and control is far from a hackneyed dead-end job.

In the process of my research, a lot of problems however have been identified with the stores unit of the bursary Department as well as the organisation as a whole.

The first problem identified in the store unit of the Federal University of Technology is the non-challant type of attitude given to obsolete and obsolescence goods. These goods are lying idle in stock and they are occupying space in the store. Unfortunately,the management does not show any concern over this capital tied down in stock. The researcher view this as a huge waste of resources. In the process of my research, it is however noticed that management does not attach much importance to the welfare of the staff. The staff that are directly attached to the physical stress are not given overall, rainboot (protective clothings). In view of the above, it is recommended that the store labourers including the store officer attached to the stores be provided with protective clothings.

Another problem established by the author in the course of this research is that the storekeeper did not adopt a standard method of issuing stock out of the store, hence he issued out goods to the

various user departments at random. It is however suggested that the storekeeper should make use of LIFO, FIFO etc as a method of issuing goods out of stores, so as to effect control in issuing goods to the user departments. In conclusion however, it is in the opinion of the author that if all the above recommendations and suggestions are taken into considerations by the management of the Federal University of Technology Minna, there will be an improved overall performance and costs will be reduced to a minimum.

5.2. RECOMMENDED SYSTEM REQUIREMENTS.

a. IBM 386 or Compatibles

b. 122 MB Hard - disk

c. Colour Graphics monitor

d. Standard keyboard

e. Printer

f. 3.5" floppy disk drive

g. Dos 4.0 or higher

h. Pre-installed dBASE IV

APPENDIX

```
*****************************************************************
* PROGRAM - STOCK CONTROL SYSTEM FOR BURSARY DEPARTMENT         *
*           FEDERAL UNIVERSITY OF TECH., MINNA                  *
* PURPOSE   IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE   *
*           AWARD OF POST - GRADUATE IN COMPUTER SCIENCE        *
*           OF THE FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA      *
*****************************************************************
SET TALK OFF
SET ECHO OFF
SET STAT OFF
DO WHILE .T.
CLEAR
@ 2,9 TO 19,65 DOUBLE
@ 4,20 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@ 5,20 SAY "         (BURSARY DEPARTMENT)"
@ 7,20 SAY "   STATIONERY STOCK CONTROL SYSTEM"
@ 8,10 TO 8,64
@ 10,24 SAY "STATIONERY FILE MAINTENANCE"
@ 12,24 SAY "RECEIPTS TRANSACTIONS"
@ 14,24 SAY "ISSUES TRANSACTIONS"
@ 16,24 SAY "GENERATE REPORT"
@ 18,24 SAY "E X I T"
SET COLO TO GR+/B
@ 10,24 SAY "S"
@ 12,24 SAY "R"
@ 14,24 SAY "I"
@ 16,24 SAY "G"
@ 18,24 SAY "E"
SET COLOR TO W+/B
@ 20,20 SAY "Press 1st letter of your choice."
I=0
DO WHILE I=0
I=INKEY()
IF UPPER(CHR(I)) $ "SRIGE"
   EXIT
ENDIF
I=0
ENDDO
DO CASE
   CASE UPPER(CHR(I)) $ "S"
     DO ITEMMENU
   CASE UPPER(CHR(I)) $ "R"
     DO RECPMENU
   CASE UPPER(CHR(I)) $ "I"
     DO ISSUMENU
   CASE UPPER(CHR(I)) $ "G"
     DO REPTMENU
   CASE UPPER(CHR(I)) $ "E"
     EXIT
ENDCASE
ENDDO
CLEAR ALL
CLEAR
SET TALK ON
SET ECHO ON
SET STAT ON
RETURN
```

```
***************
DEFIN WIND STKWIND FROM 09,12 to 22,67
SELECT A
USE SMAST
SELECT B
USE SISSUES
ACTIV WIND STKWIND
DO WHILE .T.
CLEAR
STORE SPACE(5) TO MCODE
STORE SPACE(20) TO MDESC
STORE 0 TO MQTY,MUP,MSIV,MBAL,MROL
STORE CTOD('  /  /  ') TO MDATE
@0,16 SAY "NEW ISSUES TRANSACTIONS ENTRY"
@3,5 SAY "ITEM CODE [XXXXX]=Exit " GET MCODE PICT "@!"
READ
IF MCODE = "XXXXX"
   EXIT
ENDIF
SELECT A
LOCATE FOR CODE =  MCODE
IF EOF()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM CODE NOT FOUND !  PRESS ANY KEY."
   LOOP
ENDIF
MDESC=DESC
MBAL=S_BAL
MUP=U_PRICE
MROL=R_O_L
IF MBAL = 0
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM OUT OF STOCK !  PRESS ANY KEY."
   LOOP
ENDIF
@4,5 SAY "STOCK BALANCE           " GET MBAL
@5,5 SAY "ITEM DESCRIPTION        " GET MDESC
@6,5 SAY "UNIT PRICE              " GET MUP
CLEAR GETS
@7,5 SAY "QUANTITY ISSUED         " GET MQTY PICT "9999"
@8,5 SAY "SIV NUMBER              " GET MSIV PICT "9999"
@9,5 SAY "ISSUE DATE              " GET MDATE PICT "99/99/99"
READ
IF MQTY > MBAL
   @09,1 SAY ""
   ? CHR(7)
   WAIT+"  ILLEGAL QUANTITY ISSUED !  PRESS ANY KEY."
   LOOP
ENDIF
K=SPACE(1)
@11,10 SAY "[C]ontinue  [E]xit  [A]bandon" GET K PICT "!"
READ
IF K = "A"
   LOOP
```

```
ENDIF
REPLACE S_BAL WITH MBAL-MQTY
SELECT B
   APPEND BLANK
   REPLACE CODE WITH MCODE, DESC WITH MDESC, QTY_I  WITH MQTY
   REPLACE U_PRICE WITH MUP, DATE_I WITH MDATE, SIV_NO WITH MSIV
IF K = "E"
   EXIT
ENDIF
ENDDO
DEACT WIND STKWIND
CLOSE DATABASE
RETURN

************************
DEFIN WIND STKWIND FROM 09,12 to 22,67
SELECT A
USE SMAST
SELECT B
USE SISSUES
ACTIV WIND STKWIND
DO WHILE .T.
CLEAR
STORE SPACE(5) TO MCODE
STORE SPACE(20) TO MDESC
STORE 0 TO MQTY,MUP,MSIV,MBAL
STORE CTOD('  /  /  ') TO MDATE
@0,16 SAY "DELETING ISSUES TRANSACTIONS"
@3,5 SAY "ITEM CODE [XXXXX]=Exit " GET MCODE PICT "@!"
READ
IF MCODE =  "XXXXX"
   EXIT
ENDIF
SELECT A
LOCATE FOR CODE =  MCODE
IF EOF()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM CODE NOT FOUND !  PRESS ANY KEY."
   LOOP
ENDIF
@3,5 SAY "SIV NUMBER               " GET MSIV PICT "9999"
READ
@3,5 SAY "DATE ISSUED              " GET MDATE
READ
MDESC=DESC
MBAL=S_BAL
SELECT B
LOCATE FOR SIV_NO=MSIV .AND. DATE_I = MDATE
IF CODE <> MCODE
   CONTINUE
ENDIF
IF .NOT. FOUND()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"  ISSUES TRANSACTION NOT FOUND !  PRESS ANY KEY."
```

```
   LOOP
ENDIF
@4,5 SAY "STOCK BALANCE            " GET MBAL
@5,5 SAY "ITEM DESCRIPTION         " GET MDESC
@6,5 SAY "QUANTITY RECEIVED        " GET QTY_I
@7,5 SAY "UNIT PRICE               " GET U_PRICE
@8,5 SAY "LPO NUMBER               " GET SIV_NO
@9,5 SAY "ISSUE DATE               " GET DATE_I
CLEAR GETS
MQTY=QTY_I
K=SPACE(1)
@11,10 SAY "[D]elete        [A]bandon" GET K PICT "!"
READ
IF K = "D"
   DELETE
   PACK
ENDIF
   SELECT A
   REPLACE S_BAL WITH MBAL+MQTY
ENDDO
DEACT WIND STKWIND
CLOSE DATABASE
RETURN

************************
SET TALK OFF
SET ECHO OFF
SET STAT OFF
DO WHILE .T.
CLEAR
@ 2,9 TO 18,65 DOUBLE
@ 4,20 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@ 5,20 SAY "          (BURSARY DEPARTMENT)"
@ 7,20 SAY " ISSUES TRANSACTIONS FILE MAINTENANCE"
@ 8,10 TO 8,64
@ 10,24 SAY "Add new issues transactions"
@ 12,24 SAY "Delete issues transactions"
@ 14,24 SAY "View issues transactions"
@ 16,24 SAY "E x i t"
SET COLO TO GR+/B
@ 10,24 SAY "A"
@ 12,24 SAY "D"
@ 14,24 SAY "V"
@ 16,24 SAY "E"
SET COLOR TO W+/B
@ 19,20 SAY "Press 1st letter of your choice."
I=0
DO WHILE I=0
I=INKEY()
IF UPPER(CHR(I)) $ "ADVE"
   EXIT
ENDIF
I=0
ENDDO
DO CASE
   CASE UPPER(CHR(I)) $ "A"
```

```
     DO ISSUADDS
   CASE UPPER(CHR(I)) $ "D"
     DO ISSUDELS
   CASE UPPER(CHR(I)) $ "V"
     DO ISSUVWS
   CASE UPPER(CHR(I)) $ "E"
     EXIT
ENDCASE
ENDDO
RETURN

*************
CH1=SPACE(1)
DO WHILE CH1 <> "Y" .AND. CH1 <> "N"
@23,20 SAY "IS THE PRINTER READY ? (Y/N)" GET CH1 PICT "!"
READ
ENDDO
IF CH1="N"
   RETURN
ENDIF
CLEAR
STORE 0 TO SUBH,SUBS,P
STORE 0 TO TOTH,TOTS
STORE 60 TO L
USE SRECEIPT
SET DEVICE TO PRINT
DO WHILE .NOT. EOF()
IF L > 22
P=P+1
@1,25 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@2,25 SAY "          (BURSARY DEPARTMENT)"
@4,25 SAY "    STATIONERY STOCK RECEIPTS REPORT"
@5,01 SAY "DATE :"
@5,08 SAY DATE()
@5,70 SAY "PAGE "+LTRIM(STR(P))
@7,01 SAY REPL('-',78)
@8,01 SAY "CODE"
@8,07 SAY "ITEM DESCRIPTION"
@8,30 SAY "LPO NO"
@8,42 SAY "QTY RECEIVED"
@8,56 SAY "UNIT PRICE"
@8,68 SAY "DATE RECVD"
@9,01 SAY REPL('-',78)
L=10
ENDIF
@L,02 SAY CODE
@L,07 SAY DESC
@L,30 SAY LPO_NO
@L,42 SAY QTY_R
@L,54 SAY U_PRICE
@L,70 SAY DATE_R
L=L+1
SKIP
ENDDO
L=L+1
CLOSE DATABASE
```

```
EJECT
SET DEVICE TO SCREEN
RETURN

*****************
DEFIN WIND STKWIND FROM 10,10 to 22,67
USE SISSUES
@23,20 SAY "Press [Esc] key to exit..."
ACTIV WIND STKWIND
BROWSE NOINIT NOAPPEND NODELETE NOEDIT
DEACT WIND STKWIND
@23,20 SAY SPACE(40)
CLOSE DATABASE
RETURN

******************
DEFIN WIND STKWIND FROM 08,12 to 22,67
USE SMAST
ACTIV WIND STKWIND
DO WHILE .T.
CLEAR
STORE SPACE(5) TO MCODE
STORE SPACE(20) TO MDESC
STORE 0 TO MMIN, MMAX, MROL
@0,20 SAY "DELETING STOCK ITEMS"
@1,5 SAY "ITEM CODE [XXXXX]=Exit " GET MCODE PICT "@!"
READ
IF MCODE =  "XXXXX"
   EXIT
ENDIF
LOCATE FOR CODE =  MCODE
IF EOF()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM CODE NOT FOUND !  PRESS ANY KEY."
   LOOP
ENDIF
MDESC=DESC
MMIN =MIN
MMAX =MAX
MROL =R_O_L
@3,5 SAY "NEW ITEM DESCRIPTION   " GET MDESC PICT "@!"
@5,5 SAY "MINIMUM STOCK          " GET MMIN
@7,5 SAY "MAXIMUM STOCK          " GET MMAX
@9,5 SAY "RE-ORDER LEVEL         " GET MROL
CLEAR GETS
K=SPACE(1)
@11,10 SAY "[D]elete     [A]bandon" GET K PICT "!"
READ
IF K = "D"
   DELETE
   PACK
ENDIF
ENDDO
DEACT WIND STKWIND
CLOSE DATABASE
```

```
RETURN

******************
DEFIN WIND STKWIND FROM 08,12 to 22,67
USE SMAST
ACTIV WIND STKWIND
DO WHILE .T.
CLEAR
STORE SPACE(5) TO MCODE
STORE SPACE(20) TO MDESC
STORE 0 TO MMIN, MMAX, MROL
@0,20 SAY "EDITING STOCK ITEMS"
@1,5 SAY "ITEM CODE [XXXXX]=Exit " GET MCODE PICT "@!"
READ
IF MCODE =  "XXXXX"
   EXIT
ENDIF
LOCATE FOR CODE =  MCODE
IF EOF()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM CODE NOT FOUND !  PRESS ANY KEY."
   LOOP
ENDIF
MDESC=DESC
MMIN =MIN
MMAX =MAX
MROL =R_O_L
@3,5 SAY "NEW ITEM DESCRIPTION   " GET MDESC PICT "@!"
@5,5 SAY "MINIMUM STOCK          " GET MMIN
@7,5 SAY "MAXIMUM STOCK          " GET MMAX
@9,5 SAY "RE-ORDER LEVEL         " GET MROL
READ
K=SPACE(1)
@11,10 SAY "[C]ontinue  [E]xit  [A]bandon" GET K PICT "!"
READ
IF K = "A"
   LOOP
ENDIF
   REPLACE CODE WITH MCODE, DESC WITH MDESC, MIN WITH MMIN
   REPLACE MAX WITH MMAX, R_O_L WITH MROL
IF K = "E"
   EXIT
ENDIF
ENDDO
DEACT WIND STKWIND
CLOSE DATABASE
RETURN

**************
SET TALK OFF
SET ECHO OFF
SET STAT OFF
DO WHILE .T.
CLEAR
@ 2,9 TO 19,65 DOUBLE
```

```
@ 4,20 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@ 5,20 SAY "          (WORKS DEPARTMENT)"
@ 7,20 SAY "   STATIONERY ITEMS FILE MAINTENANCE"
@ 8,10 TO 8,64
@ 10,24 SAY "Add  new stationery items"
@ 12,24 SAY "Modify stationery item data"
@ 14,24 SAY "Delete stationery item data"
@ 16,24 SAY "View stationery items"
@ 18,24 SAY "E x i t"
SET COLO TO GR+/B
@ 10,24 SAY "A"
@ 12,24 SAY "M"
@ 14,24 SAY "D"
@ 16,24 SAY "V"
@ 18,24 SAY "E"
SET COLOR TO W+/B
@ 20,20 SAY "Press 1st letter of your choice."
I=0
DO WHILE I=0
I=INKEY()
IF UPPER(CHR(I)) $ "AMDVE"
   EXIT
ENDIF
I=0
ENDDO
DO CASE
   CASE UPPER(CHR(I)) $ "A"
     DO ITEMADDS
   CASE UPPER(CHR(I)) $ "M"
     DO ITEMEDTS
   CASE UPPER(CHR(I)) $ "D"
     DO ITEMDELS
   CASE UPPER(CHR(I)) $ "V"
     DO ITEMVWS
   CASE UPPER(CHR(I)) $ "E"
     EXIT
ENDCASE
ENDDO
RETURN

**********************
DEFIN WIND STKWIND FROM 10,10 to 22,67
USE SMAST
@23,20 SAY "Press [Esc] key to exit..."
ACTIV WIND STKWIND
BROWSE NOINIT NOAPPEND NODELETE NOEDIT FIELDS CODE,DESC,MIN,MAX,R_O_L
DEACT WIND STKWIND
@23,20 SAY SPACE(40)
CLOSE DATABASE
RETURN

**********************
CH1=SPACE(1)
DO WHILE CH1 <> "Y" .AND. CH1 <> "N"
@23,20 SAY "IS THE PRINTER READY ? (Y/N)" GET CH1 PICT "!"
READ
```

```
ENDDO
IF CH1="N"
   RETURN
ENDIF
CLEAR
STORE 0 TO SUBH,SUBS,P
STORE 0 TO TOTH,TOTS
STORE 60 TO L
USE SRECEIPT
SET DEVICE TO PRINT
DO WHILE .NOT. EOF()
IF L > 22
P=P+1
@1,25 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@2,25 SAY "          (BURSARY DEPARTMENT)"
@4,25 SAY "    STATIONERY STOCK RECEIPTS REPORT"
@5,01 SAY "DATE :"
@5,08 SAY DATE()
@5,70 SAY "PAGE "+LTRIM(STR(P))
@7,01 SAY REPL('-',78)
@8,01 SAY "CODE"
@8,07 SAY "ITEM DESCRIPTION"
@8,30 SAY "LPO NO"
@8,42 SAY "QTY RECEIVED"
@8,56 SAY "UNIT PRICE"
@8,68 SAY "DATE RECVD"
@9,01 SAY REPL('-',78)
L=10
ENDIF
@L,02 SAY CODE
@L,07 SAY DESC
@L,30 SAY LPO_NO
@L,42 SAY QTY_R
@L,54 SAY U_PRICE
@L,70 SAY DATE_R
L=L+1
SKIP
ENDDO
L=L+1
CLOSE DATABASE
EJECT
SET DEVICE TO SCREEN
RETURN

**********************
DEFIN WIND STKWIND FROM 09,12 to 22,67
SELECT A
USE SMAST
SELECT B
USE SRECEIPT
ACTIV WIND STKWIND
DO WHILE .T.
CLEAR
STORE SPACE(5) TO MCODE
STORE SPACE(20) TO MDESC,MSUPL
STORE 0 TO MQTY,MUP,MLPO,MBAL
```

```
STORE CTOD('  /  /  ') TO MDATE
@0,16 SAY "NEW RECEIPTS TRANSACTIONS ENTRY"
@3,5 SAY "ITEM CODE [XXXXX]=Exit " GET MCODE PICT "@!"
READ
IF MCODE =  "XXXXX"
   EXIT
ENDIF
SELECT A
LOCATE FOR CODE =  MCODE
IF EOF()
   @1,1 SAY ""
   ? CHR(7)
   WAIT+"     ITEM CODE NOT FOUND !  PRESS ANY KEY."
   LOOP
ENDIF
MDESC=DESC
MBAL=S_BAL
@4,5 SAY "ITEM DESCRIPTION         " GET MDESC PICT "@!"
CLEAR GETS
@5,5 SAY "QUANTITY RECEIVED        " GET MQTY PICT "9999"
@6,5 SAY "UNIT PRICE               " GET MUP PICT "99999.99"
@7,5 SAY "LPO NUMBER               " GET MLPO PICT "@!"
@8,5 SAY "SUPPLIER                 " GET MSUPL PICT "@!"
@9,5 SAY "RECEIPT DATE             " GET MDATE PICT "99/99/99"
READ
K=SPACE(1)
@11,10 SAY "[C]ontinue  [E]xit  [A]bandon" GET K PICT "!"
READ
IF K = "A"
   LOOP
ENDIF
REPLACE S_BAL WITH MBAL+MQTY, U_PRICE WITH MUP
SELECT B
   APPEND BLANK
   REPLACE CODE WITH MCODE, DESC WITH MDESC, QTY_R  WITH MQTY
   REPLACE U_PRICE WITH MUP, DATE_R WITH MDATE, LPO_NO WITH MLPO
   REPLACE SUPPLIER WITH MSUPL
IF K = "E"
   EXIT
ENDIF
ENDDO
DEACT WIND STKWIND
CLOSE DATABASE
RETURN

**********************
SET TALK OFF
SET ECHO OFF
SET STAT OFF
DO WHILE .T.
CLEAR
@ 2,9 TO 18,65 DOUBLE
@ 4,20 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@ 5,20 SAY "          (BURSARY DEPARTMENT)"
@ 7,20 SAY "RECEIPTS TRANSACTIONS FILE MAINTENANCE"
@ 8,10 TO 8,64
```

```
@ 10,24 SAY "Add new receipts transactions"
@ 12,24 SAY "Delete receipts transactions"
@ 14,24 SAY "View receipts transactions"
@ 16,24 SAY "E x i t"
SET COLO TO GR+/B
@ 10,24 SAY "A"
@ 12,24 SAY "D"
@ 14,24 SAY "V"
@ 16,24 SAY "E"
SET COLOR TO W+/B
@ 19,20 SAY "Press 1st letter of your choice."
I=0
DO WHILE I=0
I=INKEY()
IF UPPER(CHR(I)) $ "ADVE"
   EXIT
ENDIF
I=0
ENDDO
DO CASE
   CASE UPPER(CHR(I)) $ "A"
     DO RECPADDS
   CASE UPPER(CHR(I)) $ "D"
     DO RECPDELS
   CASE UPPER(CHR(I)) $ "V"
     DO RECPVWS
   CASE UPPER(CHR(I)) $ "E"
     EXIT
ENDCASE
ENDDO
RETURN

**********************
DEFIN WIND STKWIND FROM 10,10 to 22,67
USE SRECEIPT
@23,20 SAY "Press [Esc] key to exit..."
ACTIV WIND STKWIND
BROWSE NOINIT NOAPPEND NODELETE NOEDIT
DEACT WIND STKWIND
@23,20 SAY SPACE(40)
CLOSE DATABASE
RETURN

**********************
SET TALK OFF
SET ECHO OFF
SET STAT OFF
DO WHILE .T.
CLEAR
@ 2,9 TO 19,65 DOUBLE
@ 4,20 SAY "FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA"
@ 5,20 SAY "          (BURSARY DEPARTMENT)"
@ 7,20 SAY "    STATIONERY STOCK SYSTEM REPORT"
@ 8,10 TO 8,64
@ 10,24 SAY "Stationery items list"
@ 12,24 SAY "Receipts transactions"
```

```
@ 14,24 SAY "Issues transactions"
@ 16,24 SAY "Stock Level"
@ 18,24 SAY "E x i t"
SET COLO TO GR+/B
@ 10,24 SAY "S"
@ 12,24 SAY "R"
@ 14,24 SAY "I"
@ 16,30 SAY "L"
@ 18,24 SAY "E"
SET COLOR TO W+/B
@ 20,20 SAY "Press 1st letter of your choice."
I=0
DO WHILE I=0
I=INKEY()
IF UPPER(CHR(I)) $ "SRILE"
   EXIT
ENDIF
I=0
ENDDO
DO CASE
   CASE UPPER(CHR(I)) $ "S"
     DO ITMSLSTS
   CASE UPPER(CHR(I)) $ "R"
     DO RECPRPTS
   CASE UPPER(CHR(I)) $ "I"
     DO ISSURPTS
   CASE UPPER(CHR(I)) $ "L"
     DO LEVELRPT
   CASE UPPER(CHR(I)) $ "E"
     EXIT
ENDCASE
ENDDO
RETURN
```