"COMPUTER-BASED CASH ANALYSIS SYSTEM"

(A CASE STUDY OF JINIE SCHOOLS,
BARNAWA, KADUNA)

BY

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REG. NO: PGD/MCS/2001/1061

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MINNA

(NOVEMBER, 2003)

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A PROJECT SUBMITTED TO THE DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A POST-GRADUATE DIPLOMA IN COMPUTER SCIENCE.

(NOVEMBER, 2003)

APPROVAL PAGE

This is to certify that this project has been carried out by ***John Olusola Akanmu, registration number - PGD/MCS/2001/2002/1061*** and has been prepared in accordance with the regulations governing the preparation and presentation of projects in the Federal University of Technology, Minna.

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DEDICATION

This project work is dedicated to Almighty God and my lovely wife, Nike John.

ABSTRACT

This research work is based on the analysis and design of a computer-based cash analysis system.

The case study (Jinie Schools, Barnawa - Kaduna) was carefully selected and the research properly conducted to reflect the manual system existing in the institution. A suit of programs were designed through the aid of system and program flow-charts.

The study focuses attention on the concept of computer-based cash analysis system and its relevance to the information needs of school managers, with special emphasis on a computer-based system as it affects Jinie Schools.

The study equally states a hypothesis, that is an H_1 which will be tested in order to arrive at a conclusion and possible suggestions as to how to improve situations.

The study also examines other levels of information requirements of schools and discuss the responsibilities of personnel at these levels.

The study raised suggestions as to how managers can make better use of computers at their disposal to attain optimum performance in their areas of specialization.

The work is broken down into five chapters. Chapters one and two generally introduced the topic and reviewed previous studies conducted in this area.

Chapters three and four centered on the research methods used in carrying out the study and also the analysis and design of the new system. This was done through a series of programs designed to work as group. The programs were tested and the new system test-run to determine its functionality.

The last chapter centers around recommendations and further suggestion that can be introduced to improve on the already designed system.

ACKNOWLEDGMENT

To God be the glory for making this project a reality in my life.

I will like to place on record the immense contribution of my Supervisor, ***Dr. N. I. Akinwande*** for his careful supervision and very warm accommodating attitude throughout the period of this work. I am very grateful sir, may God grant you favour in your endavour, Amen.

Special thanks to Professor K. R. Adeboye, Dr Yomi, Aiyesimi, Mallam Isah Audu (the course co-ordinator), Mallam Hakimi, Mr. Victor, Mr. Ezeako (H.O.D.)and a host of other lecturers whom I have benefitted greatly from their wealth of knowledge.

My sincere thanks and appreciation also goes to those who have in one way or the other contributed to the huge success of this project work, most especially Sharafadeen Dauda who has taken pain to type out the manuscripts.

John Olusola Akanmu

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CHAPTER ONE

(General Introduction)

1.1 BACKGROUND TO THE PROBLEM

Information[1] is coming to play an ever increasing role in the day-to-day management of businesses. Business management is for ever increasing in complexity, because of growth, competition, technological developments and government legislation, etc., and it is imperative that vital information is made available at the most opportune time, in the right quantity, at the required level of accuracy and at optimum cost. Only if vital information is supplied can effective decisions be made, especially in competitive situations like the one experienced in the school business.

Computers[2] and information systems[3] play critical roles in the operation of most organizations. All organizations, from factories to banks and schools are highly dependent on information for their day-to-day operations. The vast quantity of information that large corporations and government agencies need to operate, and speed with which that information is created and used, makes computer-based information systems critical to such operation.

A management information system, or ***MIS***[4] refers to a system that gathers, condenses, and filters data until it becomes information, and then makes it available on time, and in a useful form, for use in decision making at various levels of management within an organization.

Of course an information system does not necessarily imply the use of computer. But as the scale and complexity of a business grows, its managers can unquestionably take advantage of information technology - a collective term for the computer and communication hardware[5] and software[6] and the system[7] and application[8] software - to make their employees more productive and their business more efficient. By assembling, storing, transmitting, processing[9], and retrieving data, information technology helps to make information more accurate and useful, and makes it available when and where needed.

For example, many businesses employ people to pursue news services and newspapers, select articles that are of interest to the business, and edit them into a daily report for management. If the articles could be captured using a scanner[10] and optical character recognition(***OCR***)[11] software, edited with wordprocessor[12], and fed to management via the company's electronic-mail[13] system, the organization could begin to benefit from information-technology.

In organizations where computer are vital to operations, ***MIS*** departments are hard at work trying to understand the nature of the organization's business and to improve it with information technology. They accomplish this by carefully tailoring information technology to meet the needs of managers and other users throughout the organization.

1.2 A BRIEF HISTORY OF CASE STUDY (JINIE SCHOOLS)

Jinie Schools commenced its educational services in the month of January, 1990 with only the nursery section in existence. On its staff list, it had Mr. Osei and the proprietress.

On October 3, 1993, the secondary section of the school commenced operation with 33 students in JSS(I). In the month of May, 1996, the school gained WAEC approval to register it's students for SSCE Internal Examination.

However, the school has grown tremendously with time. It now comprises a Nursery School, primary school, Junior and Senior Secondary Schools. The school now boasts of a total population of more than 2,000 pupils and students. And a staff strength of 78 employees.

In October 1997, the school acquired a fleet of 6 computers to be used for its data processing and information management, and also for use in training students and pupils computer operation and appreciation. Of the six computers, four where approved to be used in teaching students computer operation and appreciations. While the remaining two where approved for administrative purposes. The data processing department is headed by a computer programmer who handles the daily cash transactions of the school as they occur.

In January 1998, the University of Lagos approved Jinie Schools to be used as it's satellite campus for part-time and full-time courses in Business administration, Accounting and Marketing, for Advanced, Executive Diplomas and Post Graduate Diplomas.

1.3 STATEMENT OF GENERAL PROBLEM

Computerization is having an impact on the information society that goes far beyond the change in economic and technical trends. The smooth functioning of an information society is highly dependent on the electronic technology. Such a society is also quite sensitive to disruption through various forms of computer crime, such as unauthorised access to information, embezzlement, and invasions of security and privacy. There is therefore, a general problem of data insecurity in information systems.

However, this research is aimed at designing a computer based daily cash analysis system capable of recording all daily cash transaction as made to determine, how much has accrued, how much of it has been used for expenses and to determine how much is taken to the bank and how much cash is left in the office.

1.4 PURPOSE OF THE STUDY

This study was conducted as a partial fulfilment of the requirements for the award of a "Post Graduate Diploma" Certificate in information Management Technology - Federal University of Technology Owerri.

1.5 AIMS AND OBJECTIVES OF THE STUDY.

The study was conducted in order to analyse and design a computer-based cash analysis system through a suit of programs that will be capable of recording all cash transactions, and giving reports on daily, weekly, monthly and annual basis for Management decision making.

1.6 SIGNIFICANCE OF THE STUDY

One very important significance of this study is that it will serve as a study material to other students researching on computer-based cash analysis systems, thereby furthering the course of the learning process.

This study will also serve as a reference material to students and the general public, especially the laymen in the area of computer based management information system. Thereby cultivating more awareness in them about some basic computer and information technology terms.

1.7 LIMITATIONS OF THE STUDY

This study is limited in scope to the area of the application of computers in cash analysis for management consumption. The project does not cover other aspects of computer application, such as, stock control and management, payroll, personnel record keeping, etc.

Furthermore, the analysis was carried out based on the cash analysis system being used in Jinie Schools, as against other places. This will therefore limit the performance of the program to only function for the organization to which it was designed. However, the set of programs coded can be modified to adapt to other organizations systems.

1.8 ASSUMPTIONS (RESEARCH HYPOTHESIS)

1. **HO_1** - The system when completed with its suit of programs will take over the existing manual cash analysis system and effectively handle the cash analysis reports needed for decision making in the organization.

1.9 DEFINITION OF TERMS

1. ***Information:***

   (1) Data that have a context

   (2) Data used in decision making

   Generally, as the end result of processed data.

2. ***Computer:***

   An electronic device which is capable of receiving data as input, process it according a set of instructions (Program) and give an output (information).

3. ***System:***

   (1) In general systems theory, a set or arrangement of parts acting together to perform a function.

   (2) In systems analysis, a network of interrelated procedures performed by people with the aid of tools or machines.

4. ***MIS:***

A system that gathers, condenses, and filters data until it becomes information, then makes it available in a useful form, for use in decision making at various levels of management.

5. ***Hardware:***

The physical components associated with a computer or other systems.

6. ***Software:***

Programs that control the functions of a computer system.

7. ***System Software:***

Programs or commands used to control the operation of the computer system.

8. ***Applications Software:***

A computer program or set of programs that is intended to perform a specific function, such as accounting, payroll, word processing, spreadsheet calculating, or database management.

9. ***Process(ing):***

The act of carrying out a systematic series of actions directed toward achieving a goal.

10. ***Scanner:***

A device that examines a pattern and converts it into a digital representation suitable for computer processing. Patterns can then be manipulated into a form suitable for the application.

11. ***OCR (Optical Character Recognition)***

A process that scans a printed image, reads the symbols, and translates them into computer-readable codes.

12. ***Word Processor:***

A application program designed to compose, revise, print, and file written documents.

13. ***Electronic-mail:***

An electronic technology that handles the sending and receiving of messages.

14. ***Program:***

(1) A set of instructions that tells a computer what to do.

(2) The activity involved in creating a program.

15. ***Network:(Computer)***

Two or more communicating computers that are connected to form a system.

16. ***Disk:***

A circular platter on which a magnetic or reflective coating is applied. Used for long-term storage of data.

17. ***Floppy-Disk:***

A flexible plastic disk coated with a magnetic recording material. Portable, used for data storage.

18. ***Hard-disk:***

A disk made of a rigid base, such as aluminum, and coated with a magnetic-oxide layer. Usually fixed into the system unit, and has larger storage capacity than a floppy-disk.

19. ***Memory:***

The component of a computer system that stores programs and data while waiting to be processed by the **CPU**. Also called primary memory.

20. ***Backup:***

Copying program or data files in case the original is lost or destroyed.

23. ***Multi-user (computer):***

Systems that allow several people to use or share a computer's processor, memory, and mass storage simultaneously. Often characterised by systems with several terminals connected to a single central processor.

CHAPTER TWO

(Literature Review)

2.1 *THE POSITION OF DATA PROCESSING IN EDUCATIONAL INSTITUTION*

The position of data processing in an educational institution depends upon a number of factors, amongst which are the size of the school, the volume of data to be processed, the dispersion of operating units and the information needs of the various functions and departments of the school.

In general, as volumes of data for processing increases, it becomes necessary to consider the use of mechanised or computerized methods. It is then necessary to consider whether data processing should be centralised for the institution as a whole in order to concentrate resources to achieve economy in data processing operations. Some of theses factors, with regards to educational institutions of varying sizes, will be considered.

* ***The small schools:***

The smaller type of institutions may have a general office controlled by an office manager who is responsible for all the data processing requirements of the school. The method of

data processing used would perhaps consist of manual clerical operations, with auxiliary aids such as adding/listing machines and desk-top calculators. In this situation, the volumes of data of various types would not be very great and the use of sophisticated machines for processing the data would not be economically viable. In this case, all data processing would be centralised in the general office.

* ***The big school:***

This type of institutions may be structured on a functional basis and each function may be self-contained with regard to its data processing requirements. This particularly applies to the accounting function which, traditionally, process data in respect of school fees and produces analysis , students statistics and financial accounts.

Adding/listing machines may be used for pre-listing transactions to provide control totals to enable the accuracy of postings to be checked. Desk-top calculators may be used to perform calculations relating to school fees payments, wages, costs, stores issue valuations and checking purchase invoice extensions, etc. Keyboard accounting machines (me chanical

or electronic) may be used for posting ledgers (stores ledger, purchase ledger, fees ledger and general ledger , for example) and the preparation of the payroll, pay slips and tax and earnings, etc. If a visible record computer is used, calculations may be performed, enabling invoices and other similar documents to be prepared without the need for other machines such as desk-top calculators.

Typewriters would perhaps be widely used for typing reports and summaries of transactions. Adding machines may be used for fees ledger, and statements of account and printing fixed payroll data, in addition to the basic task of addressing envelopes.

2.2 THE SCOPE OF INFORMATION SYSTEM

The structure of an information system often parallels the structure of the organization. An educational institution is often divided into functional units such as academics, administration, and accounts. There are management information systems for each functional unit as well as systems common to all functional areas.

Within each functional unit there are usually three levels of management whose needs an information system must address ;

* ***The operational level:***

  This level is concerned with the day-to-day management of the institution. For example, the Admin. officer of a school works at the operational level. His or her responsibilities might include verifying the cash register for totals that record the daily transactions and monitoring employee performance.

* ***The tactical level:***

  This level is also known as middle management, which is concerned with achieving goals and correcting specific exceptions. Middle managers are usually responsible for more than one group of employees. For example, suppose an educational institution is made up of different campuses, with each campus headed by an Admin manager. A middle manager might be responsible for the chain of campuses making up the school. He or She is concerned with whether individual campuses are meeting preset targets in terms of student enrolment and teachers and staff are meeting up to the current set standards.

* ***The strategic level:***

This level is associated with top management. It is concerned with the long term goals of the entire institution. The proprietor of a chain of schools needs to perform tasks such as preparing budgets for the coming year, analyzing opportunities for new campuses locations, making appropriate decisions, and analyzing the competitive environment in which the schools operate.

However, because no two educational institution have exactly the same needs, information-system solutions are not generic. An institution's approach to information systems depends on a number of factors. Some of these include the following.

* ***The size and the number of facilities:***

Small schools may only need a few personal computers, whereas a large institution may need to manage a complex network of tens or hundreds of computers located throughout their campuses.

* The kind of arrangements an educational institution has with its students in terms of learning. For example a large institution may decide to provide sit at home kind of education for some of its deformed or handicapped students. Such that the students can use personal computers on networks to reach their instructors and obtain relevant information from other libraries across the country.

2.3 ***INFORMATION SYSTEM AS A STRATEGIC TOOL IN MANAGEMENT***

Historically, the role of ***MIS*** involved automating the basic business transactions such as, order entry, inventory control, and accounts payable and receivable, and then processing them. But as educational institutions, corporations and governments evolved, increasing complexity and competition placed new demands on management. To cope successfully, management had to place more emphasis on formulating, planning, and executing strategies, which are plans of action designed to cope with change, competition and uncertainty. As a result, strategic management has become an important tool that guides educational institutions thinking and behaviour, and the use of an information systems in strategic ways has become the new and important role of ***MIS*** in the organization.

Using information strategically requires managers to think about ;

1. where the institution is heading,
2. How the competitive environment in which the educational institution operates is changing,
3. The consequences of those changes to the institution.

2.4 ***A REVIEW OF THE CURRENT MANUAL CASH ANALYSIS SYSTEM IN JINIE SCHOOLS***

Jinie school is a relatively big school and so is its information requirements. For instance, at the beginning of every term, the management will need to have an up-to-date information about the returning students and the new intakes. This information will enable them set goals and make plans as to whether to increase teaching staff or to build new blocks of classes to accommodate the students. This information will also inform the management of the growth of the school in terms of students enrolment, and be able to compare with other neighbouring schools.

The school management also require an up-to-date information on current cash flow and analysis. This is to enable them make financial plans and set objectives to meet up to their long and short-term goals.

Before the end of the month, the school management needs to have information as to the total sum of money which has accrued to the school in terms of school fees.

The Cashier

The school has a Cashier whose duty it is to collect all payments, both in cash or in cheques. The Cashier also collects other payments made to the school from her other businesses, such as sales made from the school's shop, the block molding industry and others like hall rentage. The Cashier also makes payments of all expenses as they occur during the course of the day. So, while payments are made to the cashier, the Cashier also pays out money to meet up to daily expenses of the school. The Cashiers book, therefore is made up of an income and expenditure column. The Cashier keeps a record of these payments and expenses in the cash book, and renders an account at the end of the day to the schools' Account Officer.

The Accounts Officer

The accounts officer prepares all payment vouchers and passes them on to the Cashier. These vouchers usually cover daily expenses which the Cashier pays and keeps records of. The Accounts Officer is also responsible for preparing vouchers for the payment of wages to labourers and other daily paid workers in the block industry. At the close of the day, the Cashier renders accounts to the Accounts Officer, who ensures that all records of the days transactions are accurate and properly kept.

The proprietor

The Proprietor, as the owner of the school is usually the last person to whom the daily cash transactions record are taken to for scrutiny. The Proprietor goes through the records ensuring that all is properly kept and accurate. This records are then placed in a file for future references.

CHAPTER THREE

(Systems Analysis and Design)

3.1 RESEARCH METHODOLOGY

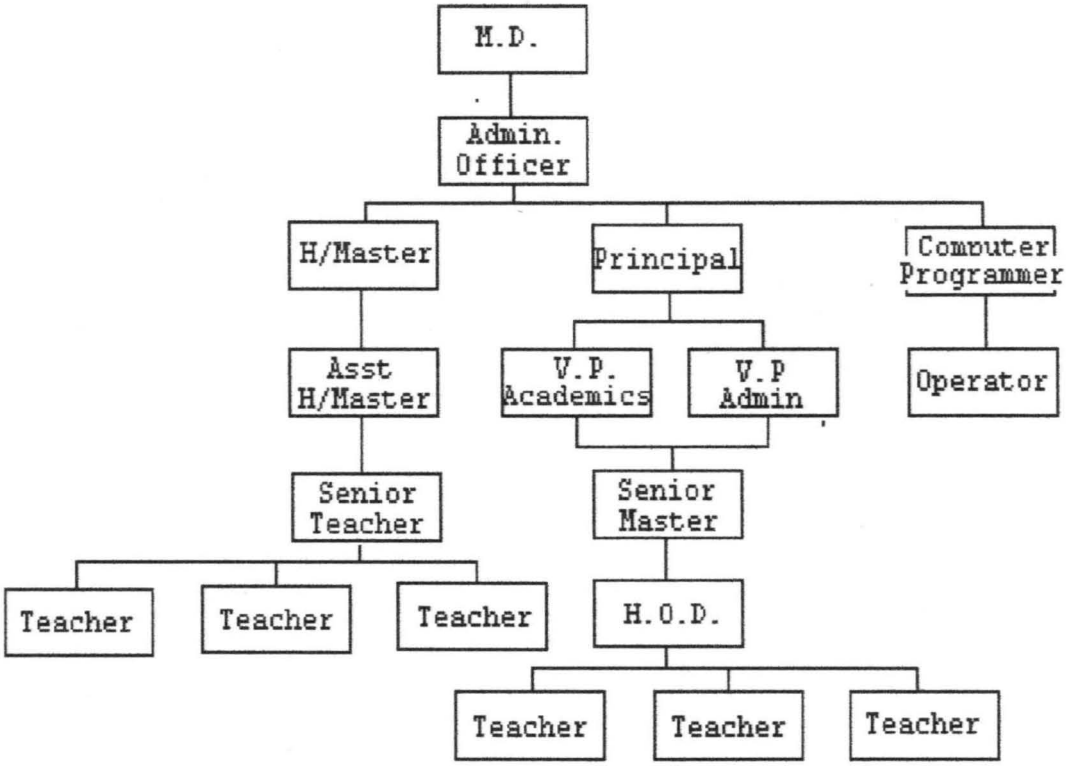
This portion explains the various research tools used for data collection. Two types of data were used for drawing conclusion on the analysis and design of the new system. These are Primary data and secondary data. The data used for the research was collected through a combination of three different research tools, namely; questionnaires, personal interviews and direct observation of the situation in the school.

The questionnaire is divided into two sections, with the first part containing the personal data of the respondents. And the other section made up of the questions which the respondents are expected to answer. Some of these questions are objective in nature, from which the respondents just choose the most appropriate answer in his or her view.

Respondents were also personally interviewed . This is especially so in the cases of the Cashier and the Accounts Officer, who had to explain certain aspects of their jobs directly. The interview questions are similar to that contained in the questionnaire.

Direct observation was also used in collecting data and information on the research topic. This is possible because the researcher has a good rapport with staff of the data processing department of the school, and was therefore able to directly observe the situation.

3.2 ORGANIZATIONAL STRUCTURE



3.3 OBJECTIVES OF THE EXISTING SYSTEM

The current manual cash analysis system used by the school is aimed at keeping records of daily cash/non-cash transactions of the school for accountability purpose.

The cash analysis is also used in the preparation of the annual

accounting reports of the school.

Among others, the cash analysis is used for decision making in terms of the total amount of money that has accrued to the school and how much the school has expended out of the total income. This enables know their current financial position at a very short notice.

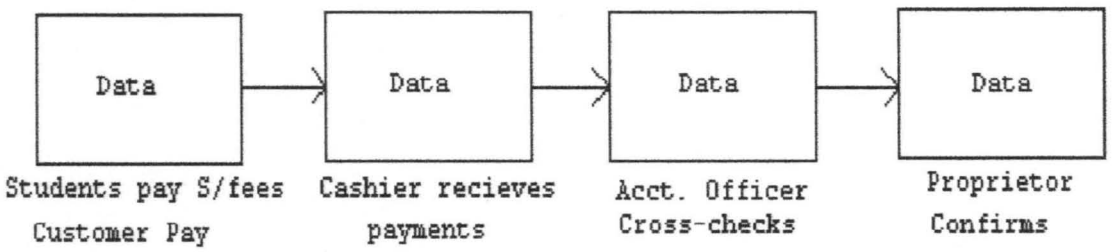
3.4 INPUT, PROCESSING AND OUTPUT ANALYSIS

INPUT: Data to be used for the program are to be collected from the cashier on daily basis and entered into the computer system by the computer operator for storage.

PROCESSING: Data is not immediately processed. The processing is done at the output stage before reports are generated.

OUTPUT: The program output is obtained in three forms. Through the screen, printer and disk storage.

3.5 DATA FLOW DIAGRAM



3.6 PROBLEMS OF EXISTING SYSTEM

Manual systems of data processing is characterised by quite a number of short-commings. Most paramount of this is the unreliability of the system. For this reason, computer-based systems are now been adopted in order to forestall this short-commings. Some of this short-commings are further explained below ;

(i) Inaccuracy in computation of daily cash analysis, resulting in errors.

(ii Manual files are used to keep records of daily cash analysis. As time goes by, the files become voluminous and then storage space becomes a problem

(iii) Much time is wasted during the manual data processing and analysis. This is often as a result of the errors that usually occur. This errors, quite often takes time to detect.

(iv) Because of the frequent errors, the cashier and the Accounts Officer are often exposed to extreme stress.

(v) Up-to-date reports on current cash situations of the school can not be obtained on request. It usually takes time to compute this reports for Management decision making.

3.7 JUSTIFICATION FOR THE NEW SYSTEM

Based on the short-commings of the existing system explained above, it is paramount that a new computer based system is most appropriate to proffer a remedy to the problems analysed. The new computer-based cash analysis system will among others be able to ;

(i) take care of the inaccuracy problem

(ii) provide a large database which will be capable of handling a very substantial amount of data.

(iii) save data processing time.

(iv) reduce the stress being experienced by the Cashier and the Accounts Officer

(v) provide timely and up-to-date current financial reports for management consumption.

3.8.1 INPUT SPECIFICATION

Date of recording transaction: This represents the date of the day in which the transaction took place. It is a date data type which contains 10 maximum character spaces.

Receipt Number for primary section: This consist of the series of receipts and their numbers used for the current day - for Primary receipt booklet. It is an alpha-numeric data type, which contains a maximum 12 character spaces.

Total cash collected for Primary: This represents the total cash received for primary section for the current day. It is a numeric data type, which consist of a maximum 14 character spaces.

Receipt Number for Secondary section: This consist of the series of receipts and their numbers used for the current day - for Secondary receipt booklet.It is an alpha-numeric data type, which contains a maximum 12 character spaces.

Total cash collected for Secondary: This represents the total cash received for the Secondary section for the current day. It is a numeric data type, which consist of a maximum 14 character spaces.

Parents Teachers Association Levy: This represents the total cash received for P.T.A. levy for the day. It is a numeric data type, which consist of a maximum 10 character spaces.

Total expenses for the day: The represents the total expenses incurred for the current date. It is a numeric data type, which consist of a maximum 14 character spaces.

Amount banked for the day: This represents the total amount sent to the bank for the current transaction day. It is a numeric data type, which consist of a maximum 14 character spaces.

3.8.2 OUTPUT SPECIFICATION

1. Daily Cash Analysis

Jinie Schools

Daily Cash Analysis

**CASH TRANSACTION AS AT ----------> **	**XX/XX/XX**
Receipt number for primary ---------->	99999 - 99999
Total cash for primary section ---------->	999,999.99
Receipt number for secondary ---------->	999,999.99
Total cash for secondary ---------->	999,999.99

Daily Analysis

Total cash for the day ---------->	9,999,999.99
Total cheques for the day ---------->	9,999,999.99
Total P.T.A. levy payments ---------->	999,999.99
Total expenses for the day ---------->	999,999.99
Total Cash banked ---------->	999,999.99
***Cash balance for the day ----------> ***	***999,999.99***

2. **Cumulative Cash Analysis**

Jinie Schools

Cumulative Cash Analysis

DATE	SECTION	REC. NO.	CASH EXP.	CASH AT HAND
XX-XX-XX	XXXXXXX	99999-99999	999,999.99	999,999.99
XX-XX-XX	XXXXXXX	99999-99999	999,999.99	999,999.99

Total Cash for the day	---------->	999,999.99
Banked the sum of	---------->	999,999.99
Cumulative P. T. A. levy till date	---------->	999,999.99
Cumulative Expenses till date	---------->	999,999.99
Cumulative cash banked till date	---------->	999,999.99
Cumulative cash till date	---------->	***9,999,999.99***

3.8.3 FILE DESIGN AND STRUCTURE

The file type used in the construct and storage of data in this program uses the sequential mode of processing. This choice of data file processing was made due to its flexibility at data access and ease of debugging. Below is a detailed table illustrating the various fields used in the file.

1. Master file structure

Data name	Variable name	Field type	Width	Dec. Places
Date	DTE$	Character	10	
P/Rec. number	PRIRECN$	Character	12	
S/Rec. number	SECRECN$	Character	12	
Pri. total cash	CASHPRI	numeric	14	2
Sec. total cash	CASHSEC	numeric	14	2
P.T.A. levy	PTA	numeric	10	2
total expenses	EXPENSES	numeric	10	2
Amount banked	BANK	numeric	14	2

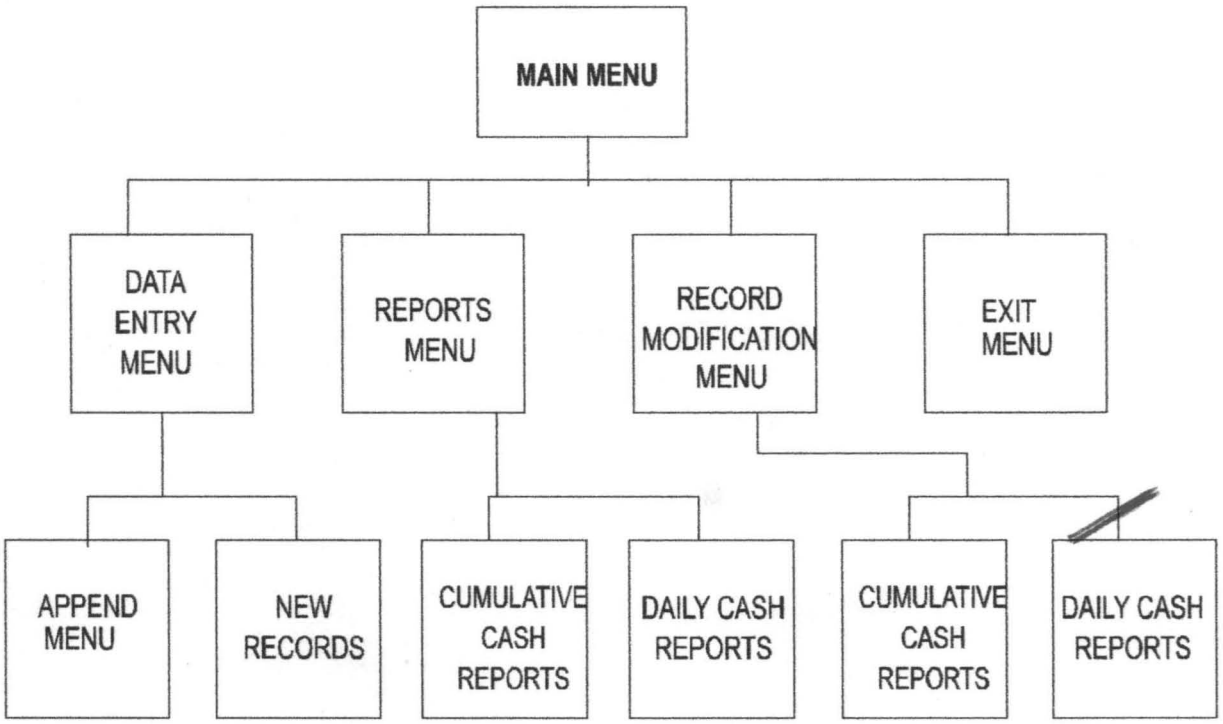
2. Transaction file structure (Daily cash analysis)

Data name	Variable name	Field type	Width	Dec. Places
Date	DTE$	Character	10	
P/Rec. number	PRIRECN$	Character	12	
S/Rec. number	SECRECN$	Character	12	
Pri. total cash	CASHPRI	numeric	14	2
Sec. total cash	CASHSEC	numeric	14	2
P.T.A. levy	PTA	numeric	10	2
total expenses	EXPENSES	numeric	10	2
Amount banked	BANK	numeric	14	2
Total cash	TOTCASH	numeric	14	2
Cash balance	BALCASH	numeric	14	2
Total P.T.A.	TOTPTA	numeric	10	2

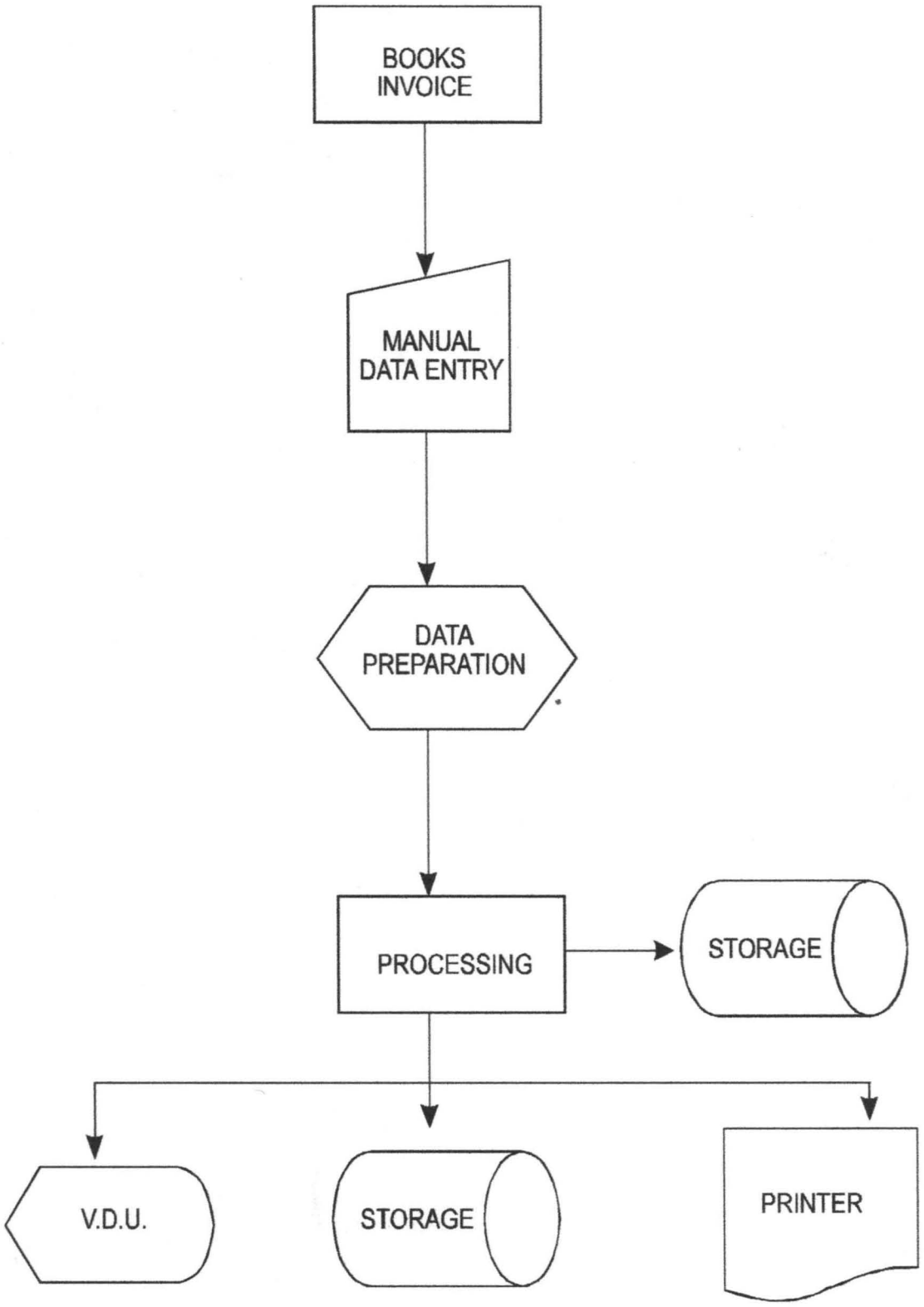
3. Transaction file structure (Cumulative cash analysis)

Data name	Variable name	Field type	Width	Dec. Places
Date	DTE$	Character	10	
P/Rec. number	PRIRECN$	Character	12	
S/Rec. number	SECRECN$	Character	12	
Pri. total cash	CASHPRI	numeric	14	2
Sec. total cash	CASHSEC	numeric	14	2
P.T.A. levy	PTA	numeric	10	2
total expenses	EXPENSES	numeric	10	2
Amount banked	BANK	numeric	14	2
Total cash	TOTCASH	numeric	14	2
Cash balance	BALCASH	numeric	14	2
Total P.T.A.	TOTPTA	numeric	10	2
Cumm. Cash	CUMCASH	numeric	14	2
Cash at hand	CASHHAND	numeric	14	2
Total expenses	TOTEXP	numeric	14	2
Total Cheques	TOTCHEQ	numeric	14	2

3.8.4 PROCEDURE CHART



3.8.5 SYSTEM FLOWCHART



3.8.6 SYSTEM REQUIREMENTS

Processor type	:	Pentium intel - ***300Mhz or above***
Hard-disk size	:	Minimum 1.2Gb
Keyboard type	:	Windows '97 Enhanced
System Unit	:	Mini-tower
Monitor type	:	SVGA 14"
Disk drive	:	3½ Floppy disk-drive & CD-ROM drive.
Memory size	:	Minimum 32Mb.
Operating system	:	MS-DOS & Windows '98

CHAPTER FOUR

(*Program Development and Implementation)*

4.1 IMPLEMENTATION AND DOCUMENTATION

One of the objectives of this study is to design a system that will utilize a set of programs to process the cash analysis of the school. Through a series of test runs conducted by the researcher, it has been confirmed that the program can conveniently be put into use for the analysis.

However, the implementation procedure was carefully thought of. And it was jointly decided by the Management of the school and the researcher that it is advisable to adopt the parallel system of implementation. Where both the manual system and the computer based system will be used side by side. This decision was arrived at based on a number of advantages posed by the parallel method. Some of these include;

(i) in the case of system failure, the management can easily revert back to its old system.

(ii) the manual document will serve as a further backup to the computer data stored.

(iii) It gives management the confidence that their records can easily be retrieved at any given time.

4.2 PROGRAM DESIGN (STRUCTURE)

The complete program is made up of four main modules. Each of these modules is controlled from the main Menu. The break-down is explained below;

Main menu

* Data Entry menu
* Reports menu
* Record modification menu
* Exit menu.

Data Entry menu

* New Records
* Append new

Reports menu

* Daily Cash Analysis Report
* Cumulative Cash Analysis Report

Record modification menu

* Daily Records
* Cumulative Records

Exit menu

* Return to main menu
* Close program

4.3 PROGRAM FLOWCHART

Please see Appendix for the author's program flowchart.

4.4 SOURCE PROGRAM LISTING

Program documentation is essential as it makes a program understandable to the users of a system as well as to another programmer. The programming language used in developing the system for this study is QBASIC . This is due to its versatility in handling records and large volumes of information. Please see appendix for the author's program listing.

4.5 SAMPLE PROGRAM OUTPUT

```
D A I L Y   C A S H   T R A N S A C T I O N   R E P O R T
============================================================

CASH TRANSACTIONS FOR   ---------------->  02-10-2003


RECIEPT NO. FOR PRIMARY SECTION -------->  10016-10036

TOTAL CASH FOR PRIMARY SECTION ---------> N  200,000.00

RECIEPT NO. FOR SECONDARY SECTION ------>  20035-20080

TOTAL CASH FOR SECONDARY SECTION -------> N  500,000.00



FINAL CASH ANALYSIS FOR THE DAY
===============================

TOTAL CASH FOR THE DAY -----------------> N  710,000.00

TOTAL CHEQUE PAYMENTS FOR THE DAY ------> N   40,000.00

TOTAL P.T.A LEVY FOR THE DAY -----------> N   10,000.00

LESS EXPENSES FOR THE DAY  -------------> N   10,000.00

BANKED THE SUM OF ----------------------> N  600,000.00
```

COMMULATIVE CASH REPORTS
****

DATE	SECTION	REC. NO.	CASH	EXPENSES	CASH AT HA
01-10-2003	PRIMARY	10001-10015	120,000.00		
	SECONDARY	20001-20035	350,000.00	25,000.00	0.
TOTAL CASH FOR THE DAY ------->			475,000.00		
BANKED THE SUM OF ------------>			450,000.00		
CUMM. CASH TILL DATE --------->			475,000.00		
CUMM. P.T.A LEVY TILL DATE --->			5,000.00		
CUMM. EXPENSES TILL DATE ----->			25,000.00		
CUMM. MONEY BANKED TILL DATE ->			450,000.00		

COMMULATIVE CASH REPORTS
****

DATE	SECTION	REC. NO.	CASH	EXPENSES	CASH AT HAN
02-10-2003	PRIMARY	10016-10036	200,000.00		
	SECONDARY	20035-20080	500,000.00	10,000.00	60,000.0
TOTAL CASH FOR THE DAY ------->			710,000.00		
BANKED THE SUM OF ------------>			600,000.00		
CUMM. CASH TILL DATE --------->			1,185,000.00		
CUMM. P.T.A LEVY TILL DATE --->			15,000.00		
CUMM. EXPENSES TILL DATE ----->			35,000.00		
CUMM. MONEY BANKED TILL DATE ->			1,050,000.00		

4.6 PROGRAM OPERATIONAL GUIDE

GETTING STARTED WITH THE PROGRAM

- FROM THE WINDOWS DESKTOP
- CLICK ON START
- HIGHLIGHT PROGRAMS
- CLICK ON THE CASH ICON (THE PROGRAM BEGINS TO RUN)

The program is Menu driven and very easy to use. There are five options on the menu each of which is properly defined and explained in order to execute any particular option, just type and enter the option number and it is instantly executed.

CHAPTER FIVE

5.1 RECOMMENDATIONS

Computers have gradually taken over almost all aspects of human endeavour. They are employed in various fields such as Medicine, Accounting, Education, Architecture, Art work, etc. Jinie Schools has partially joined in the race for computerization through their use of computers for their word processing needs.

However, it is recommended that some of the computers be put to use in the accounts section of the school to process the data collected from the daily cash analysis through the sets of programs designed. This will go a long way in easing the problems of delay in the production of cash analysis reports for Management.

It is also recommended that some of the computers in the school which are obsolete be up-graded to conform with current and up-to-date applications and operating systems.

I strongly recommend that management of Jinie schools should endeavor to train their staff on how to use computers to process and interpret data. This will enable them meet up to current trends in information technology.

It is equally recommended that the school should acquire more computers to meet up to its information requirements and also to be used in training students on computer appreciation and application.

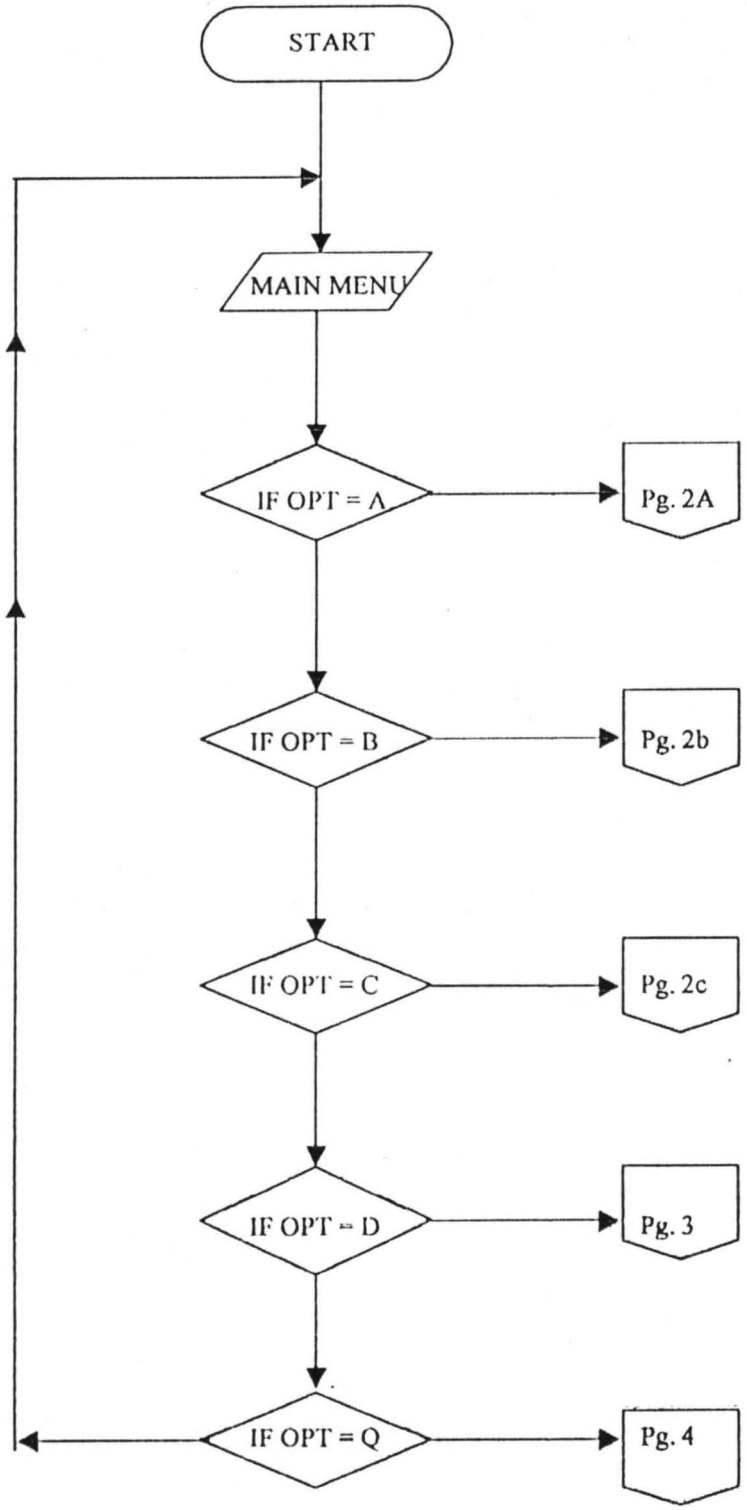
In order to take advantage of the vast banks of information databases spread across the globe, it is strongly recommended that the school should hook up to the Internet. This will enable the school to enormously make use of the various information stored in different libraries spread all over the world.

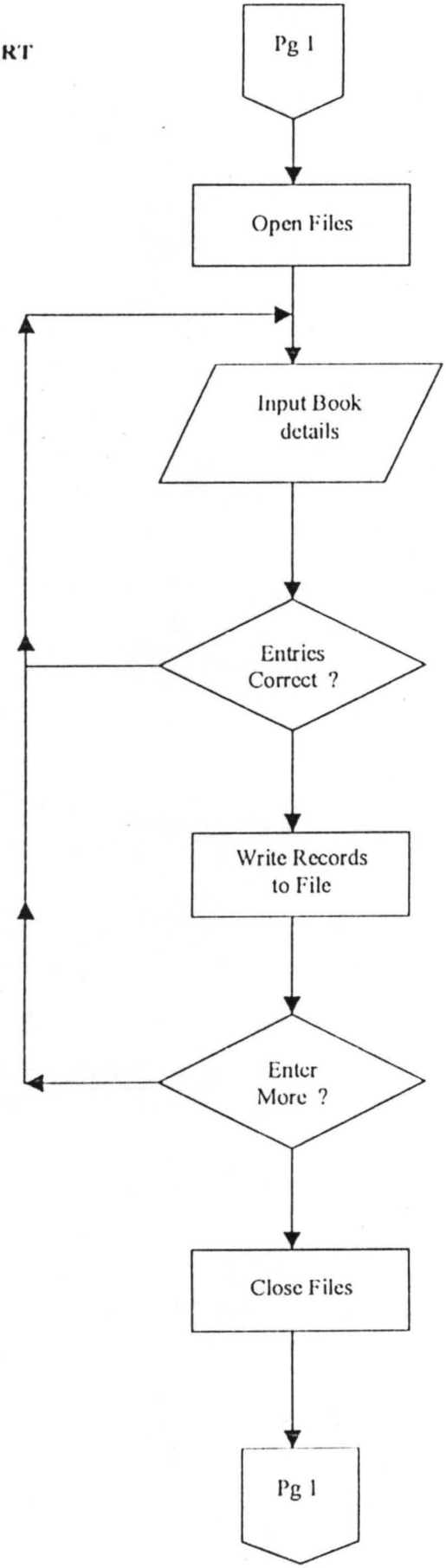
5.2 CONCLUSION

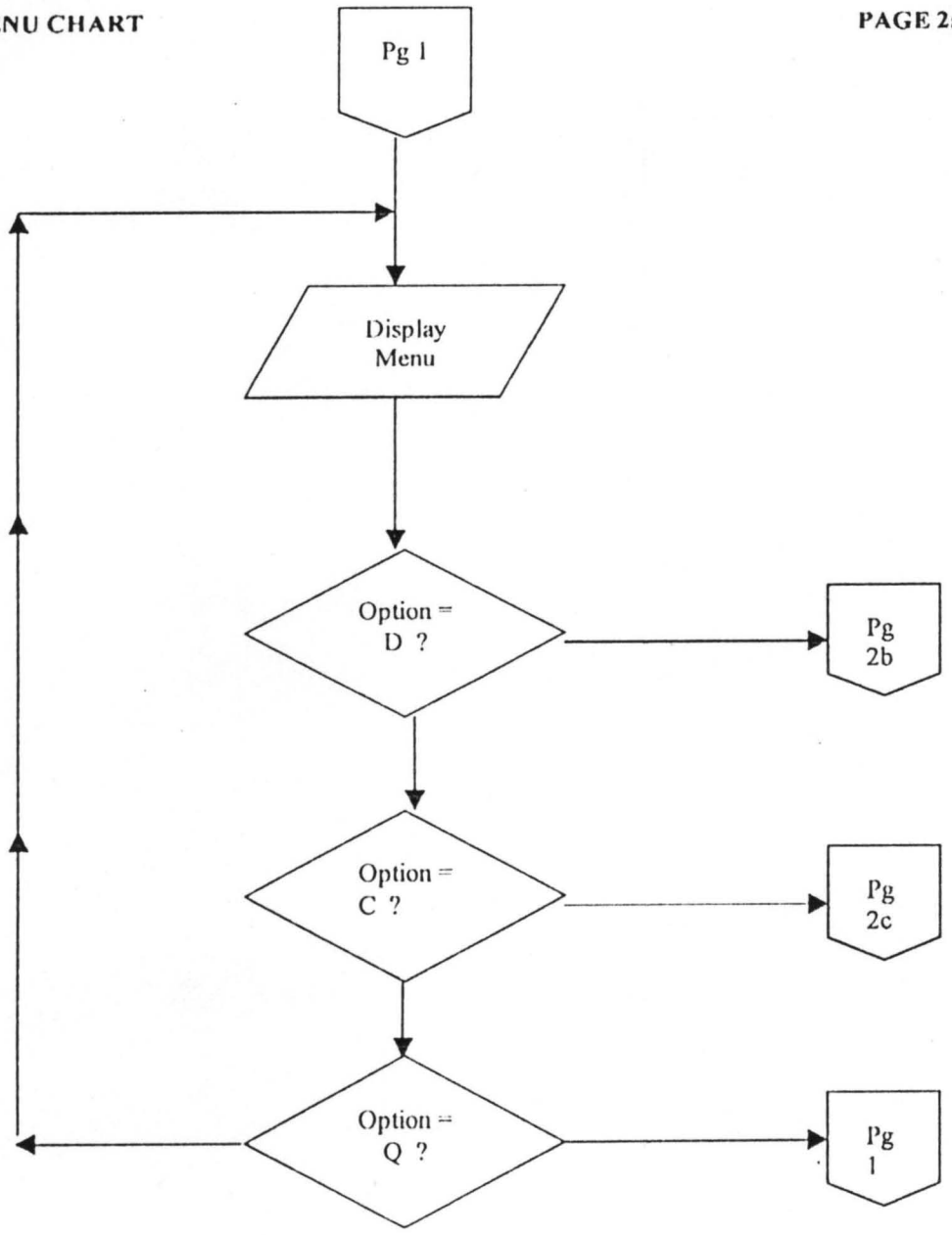
From the results of the system study and analysis conducted in the previous chapter and the result obtained from the test of hypothesis(through the program test-run and implementation) it can be concluded that the program can be used for analysing and keeping records of daily cash transactions in the school for Management decision making. A test of the research hypothesis with the result of the program output proved positive as all the processing needs of the program and the reports on analysis were instantly collected

It can therefore, be concluded that a computer-based cash analysis system as designed can take over the manual system in use.

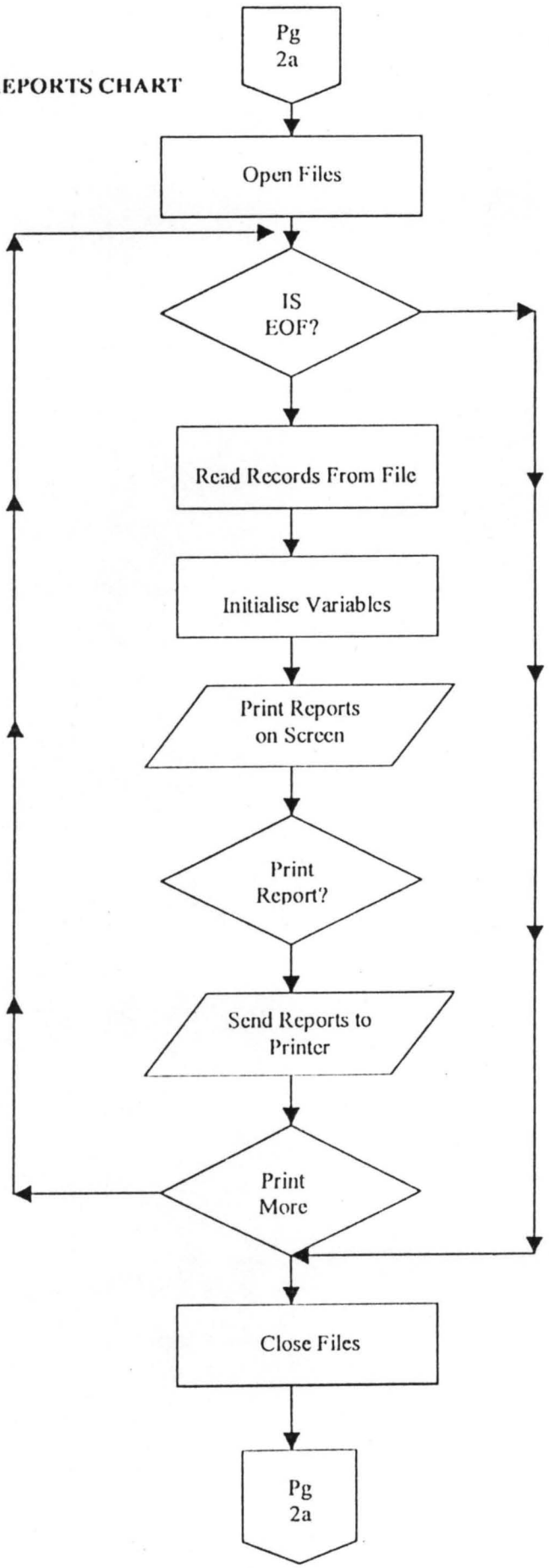
MAIN MENU CHART

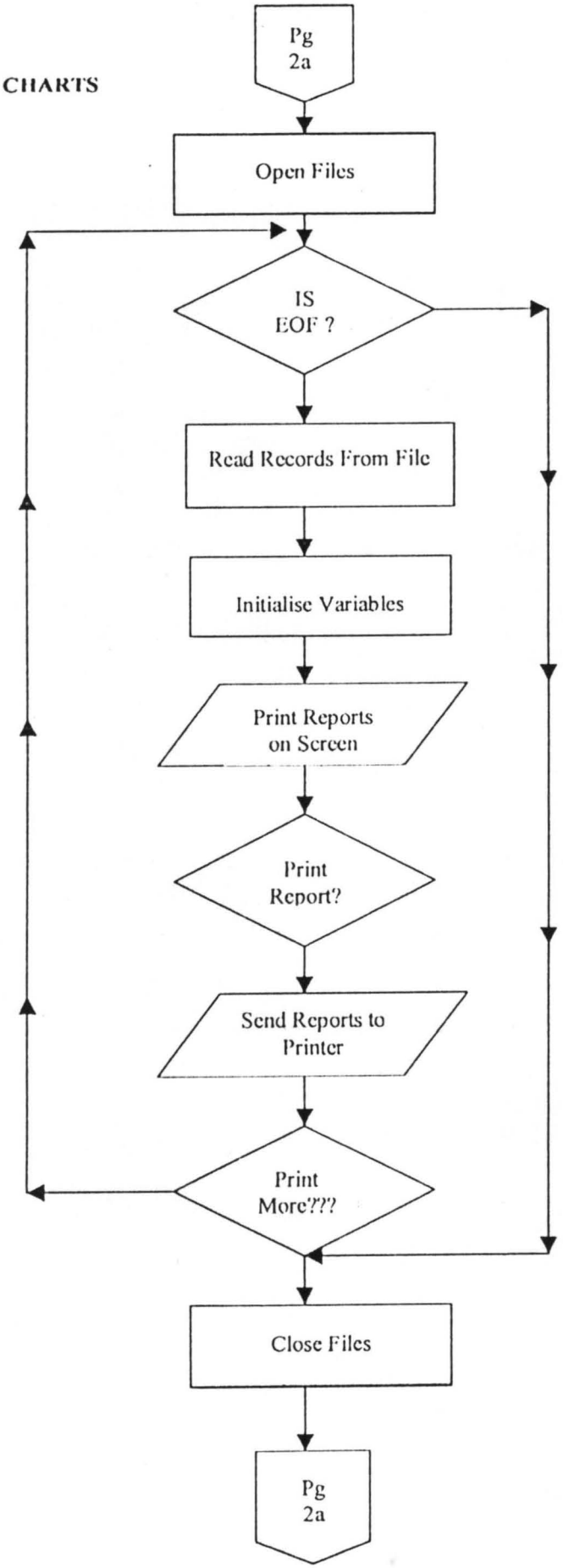


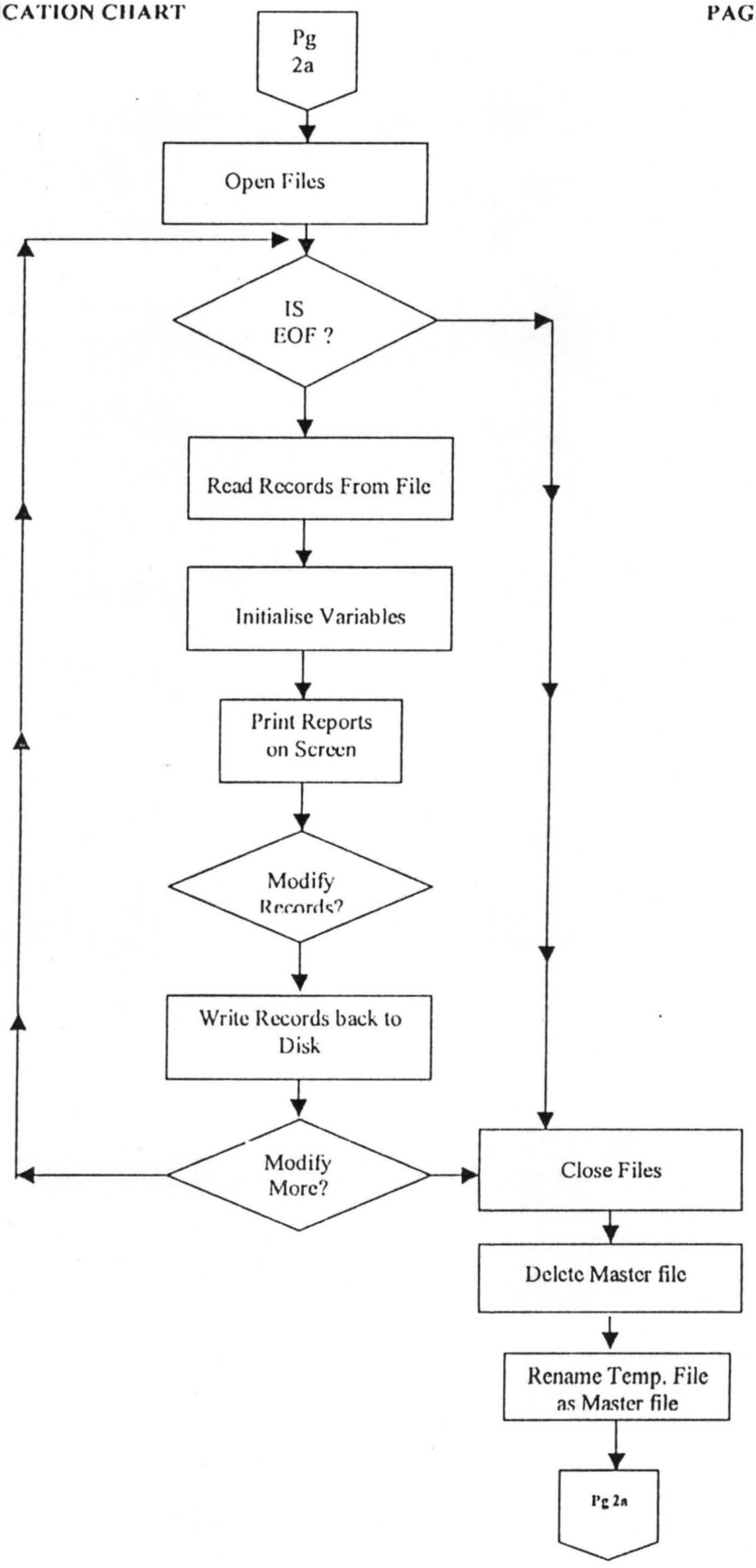

Pg 1
Open Files
Input Book details
Entries Correct ?
Write Records to File
Enter More ?
Close Files
Pg 1

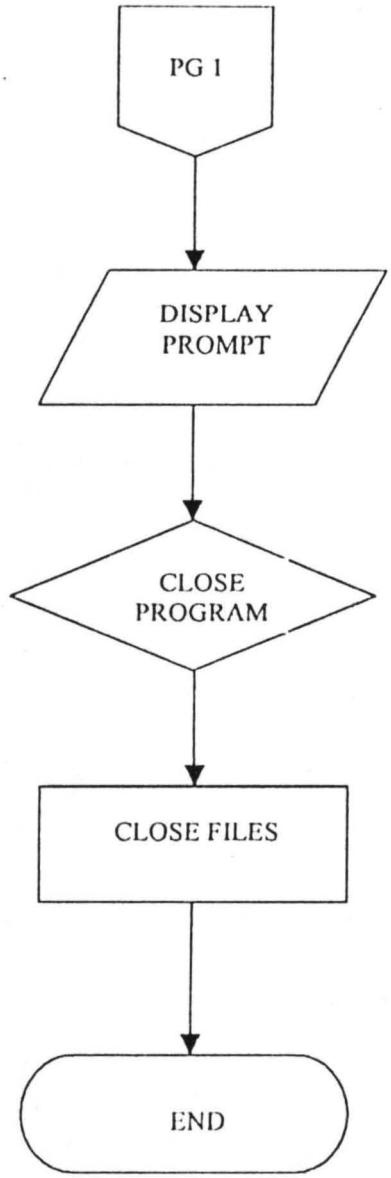

Pg 1
Display Menu
Option = D ?
Pg 2b
Option = C ?
Pg 2c
Option = Q ?
Pg 1

CUMMULATIVE REPORTS CHART




Pg
2a
Open Files
IS
EOF ?
Read Records From File
Initialise Variables
Print Reports
on Screen
Print
Report?
Send Reports to
Printer
Print
More???
Close Files
Pg
2a


Pg 2a
Open Files
IS EOF ?
Read Records From File
Initialise Variables
Print Reports on Screen
Modify Records?
Write Records back to Disk
Modify More?
Close Files
Delete Master file
Rename Temp. File as Master file
Pg 2a


PG 1
DISPLAY PROMPT
CLOSE PROGRAM
CLOSE FILES
END

```
CLS : LOCATE 12, 20: INPUT "ENER YOUR PASSWORD, PLEASE   "; PW$
IF PW$ = "JPS" OR PW$ = "jps" THEN GOTO ROUT1 ELSE GOTO ROUT2


REM PROGRAM SEGMENT TO DISPLAY MENU
ROUT1:
 REM SCREEN 0, 0, 0
 COLOR 10, 5, 10
 CLS : LOCATE 3, 8: COLOR 19, 6: PRINT
"=============================================================================="
LOCATE 4, 8: PRINT "= D A I L Y   C A S H   T R A N S A C T I O N   P R O G R A M ="
LOCATE 5, 8: PRINT
"=============================================================================="
 SCREEN 0, 0, 0
 LOCATE 8, 20: PRINT "1---> TO INPUT DAILY CASH TRANSACTIONS"
 LOCATE 10, 20: PRINT "2---> TO DISPLAY/PRINT DAILY TRANSACTION REPORT"
 LOCATE 12, 20: PRINT "3---> TO DISPLAY/PRINT CUMMULATIVE REPORT"
 LOCATE 14, 20: PRINT "4---> TO MODIFY EXISTING CASH RECORDS"
 LOCATE 16, 20: PRINT "5---> TO SHUT DOWN PROGRAM"
 LOCATE 19, 20: INPUT "SELECT OPTION [1-5] AND ENTER "; OPT
 IF OPT = 1 THEN CHAIN "CASHBOOK"
 IF OPT = 2 THEN CHAIN "REPTMENU"
 IF OPT = 3 THEN CHAIN "REPTMENU"
 IF OPT = 4 THEN CHAIN "MODICASH"
 IF OPT = 5 THEN END
 GOTO ROUT1
ROUT2:
    CLS : LOCATE 33, 20: PRINT "WRONG PASSWORD..."
        LOCATE 12, 20: PRINT "PLEASE OBTAIN THE CORRECT PASSWORD FROM
AUTHORISED PERSON": INPUT ; P$
```

```
REM PROGRAM SEGMENT TO ENTER DAILY TRANSACTION
 OPEN "A", #1, "CASHREC.DAT"
 OPEN "A", #2, "CASHREC.BAK"
ROUT2:
 CLS
ROUT3: CLS
 COLOR 10, 5, 10
 LOCATE 1, 15: PRINT "D A I L Y   C A S H   T R A N S A C T I O N S"
 LOCATE 2, 15: PRINT "================================================="
 LOCATE 3, 13:  INPUT "ENTER DATE OF TRANSACTION            : "; DTE$
 LOCATE 5, 13:  INPUT "ENTER RECIEPT NO. FOR PRIMARY        : "; PRIRECN$
 LOCATE 7, 13:  INPUT "ENTER TOTAL CASH FOR PRIMARY         : "; CASHPRI
 LOCATE 9, 13: INPUT "ENTER RECIEPT NO. FOR SECONDARY       : "; SECRECN$
 LOCATE 11, 13: INPUT "ENTER TOTAL CASH FOR SECONDARY       : "; CASHSEC
 LOCATE 13, 13: INPUT "ENTER TOTAL CHQ. PAYMENTS FOR THE DAY  : ";
CHEQS
 LOCATE 15, 13:  INPUT "ENTER TOTAL P.T.A LEVY FOR THE DAY    : "; PTA
 LOCATE 17, 13: INPUT "ENTER TOTAL EXPENSES FOR THE DAY     : ";
EXPENSES
 LOCATE 19, 13: INPUT "ENTER AMOUNT BANKED FOR THE DAY      : "; BANK
 LOCATE 21, 5: INPUT "ARE THESE ENTRIES CORRECT - CONFIRM [Y/N] ";
CONFIRM$
 IF CONFIRM$ = "N" OR CONFIRM$ = "n" THEN GOTO ROUT2
 PRINT #1, DTE$: PRINT #1, PRIRECN$: PRINT #1, CASHPRI: PRINT #1, SECRECN$:
PRINT #1, CASHSEC: PRINT #1, CHEQS: PRINT #1, PTA: PRINT #1, EXPENSES:
PRINT #1, BANK
 PRINT #2, DTE$: PRINT #2, PRIRECN$: PRINT #2, CASHPRI: PRINT #2, SECRECN$:
PRINT #2, CASHSEC: PRINT #2, CHEQS: PRINT #2, PTA: PRINT #2, EXPENSES:
PRINT #2, BANK
 LOCATE 23, 20: INPUT "DO YOU WISH TO ENTER MORE TRANSACTIONS [Y/N]
:"; CONFIRM2$
 IF CONFIRM2$ = "Y" OR CONFIRM2$ = "y" THEN GOTO ROUT3
 CLOSE
 PRINT : PRINT
 INPUT "Press ENTER key to continue..."; A$
 CHAIN "CASH"
```

```
REM PROGRAM TO DISPLAY DAILY CASH TRANSACTIONS
 LET HEAD$ = "D A I L Y   C A S H   T R A N S A C T I O N   R E P O R T"
 LET SUBHEAD$ =
"================================================================="
 OPEN "I", #1, "CASH.REC"
ROUT4:
 CLS : LOCATE 2, 15: LPRINT HEAD$
 LOCATE 3, 15: LPRINT SUBHEAD$
 LOCATE 12, 20: INPUT "ENTER DATE OF TRANSACTION TO VIEW  : "; TRAND$
 IF EOF(1) THEN GOTO ROUT5
 INPUT #1, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
 IF DTE$ = TRAND$ THEN GOTO ROUT6 ELSE GOTO ROUT4
ROUT6:
 SCREEN 1
 CLS : LOCATE 2, 15: LPRINT HEAD$
 LOCATE 3, 15: LPRINT SUBHEAD$
 LET TOTCASH = (CASHPRI + CASHSEC + PTA)
 LET BALCASH = (TOTCASH - EXPENSES - BANK - CHEQS)
 LET TOTPTA = (TOTPTA + PTA)
 LOCATE 4, 10: LPRINT "CASH TRANSACTIONS AS AT ----------> "; DTE$
 LOCATE 6, 10: LPRINT "RECIEPT NO. FOR PRIMARY ----------> "; PRIRECN$
 LOCATE 7, 10: LPRINT "TOTAL CASH PRIMARY SECTION ----------> N"; USING
"###,###.##"; CASHPRI
 LOCATE 11, 10: LPRINT "RECIEPT NO. FOR SECONDARY SECTION -----> ";
SECRECN$
 LOCATE 12, 10: LPRINT "TOTAL CASH FOR SECONDARY SECTION ------> N";
USING "###,###.##"; CASHSEC
 LOCATE 15, 10: LPRINT "TOTAL CASH FOR THE DAY ----------> N"; USING
"#,###,###.##"; TOTCASH
 LOCATE 16, 10: LPRINT "TOTAL CHQ. PAYMENTS FOR THE DAY -------> N";
USING "###,###.##"; CHEQS
 LOCATE 17, 10: LPRINT "TOTAL P.T.A LEVY PAYMENTS ----------> N"; USING
"###,###.##"; TOTPTA
 LOCATE 18, 10: LPRINT "TOTAL EXPENSES FOR THE DAY ----------> N"; USING
"###,###.##"; EXPENSES
 LOCATE 19, 10: LPRINT "CASH BALANCE FOR THE DAY ----------> N"; USING
"###,###.##"; BALCASH
 LOCATE 20, 10: LPRINT "BANKED THE SUM OF ----------> N"; USING
"###,###.##"; BANK
 LPRINT : LPRINT : LPRINT
 LOCATE 23, 10: INPUT "DO YOU WISH TO SEE MORE RECORDS [Y/N]  "; AN$
 IF AN$ = "Y" OR AN$ = "y" THEN GOTO ROUT4
ROUT5:
 CLOSE #1
```

```
INPUT "Press ENTER key to continue..."; K$
CHAIN "REPTMENU"
```

```
REM PROGRAM SEGMENT TO DISPLAY CUMMULATIVE CASH TRANSACTION
REPORT
      SCREEN 0, 0, 0
      LET COUNTER = 0
      COLOR 10, 5, 10
      OPEN "I", #1, "CASHREC.DAT"
      CLS
      PRINT STRING$(80, "=")
      PRINT TAB(2); "DATE"; TAB(12); "SECTION"; TAB(25); "REC. NO."; TAB(40);
"CASH"; TAB(53); "EXPENSES"; TAB(69); "CASH AT HAND";
      PRINT STRING$(80, "-")
MODULE1:
      IF EOF(1) THEN GOTO MODULE5
      INPUT #1, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
      LET COUNTER = COUNTER + 1
      LET TOTCASH = (CASHPRI + CASHSEC + PTA)
      LET CASHHAND = (TOTCASH - EXPENSES)
      LET BALCASH = (CASHHAND - BANK - CHEQS)
      LET CUMCASH = (CUMCASH + TOTCASH)
      LET TOTPTA = (TOTPTA + PTA)
      LET TOTEXP = (TOTEXP + EXPENSES)
      LET TOTBANK = (TOTBANK + BANK)
      LET TOTCHEQ = (TOTCHEQ + CHEQS)
      PRINT TAB(2); DTE$; TAB(12); "PRIMARY"; TAB(25); PRIRECN$; TAB(35);
USING "##,###,###.##"; CASHPRI
      PRINT TAB(12); "SECONDARY"; TAB(25); SECRECN$; TAB(35); USING
"##,###,###.##   ##,###,###.##   ##,###,###.##"; CASHSEC; EXPENSES; BALCASH
      PRINT TAB(2); "TOTAL CASH FOR THE DAY ------->N"; TAB(35); USING
"##,###,###.##"; TOTCASH
      PRINT TAB(2); "BANKED THE SUM OF ---------->N"; TAB(35); USING
"##,###,###.##"; BANK
      PRINT TAB(2); "CUMM. CASH TILL DATE --------->N"; TAB(35); USING
"##,###,###.##"; CUMCASH
      PRINT TAB(2); "CUMM. P.T.A LEVY TILL DATE --->N"; TAB(35); USING
"##,###,###.##"; TOTPTA
      PRINT TAB(2); "CUMM. EXPENSES TILL DATE ----->N"; TAB(35); USING
"##,###,###.##"; TOTEXP
      PRINT TAB(2); "CUMM. MONEY BANKED TILL DATE ->N"; TAB(35); USING
"##,###,###.##"; TOTBANK
      REM PRINT TAB(2); "CUMM. TOTAL CHEQUE PAYMENTS -->N"; TAB(35);
USING "##,###,###.##"; TOTCHEQ
      PRINT STRING$(80, "-")
      IF COUNTER = 2 THEN GOTO MODULE3 ELSE GOTO MODULE1
MODULE3:
      INPUT "DO YOU WISH TO VIEW MORE RECORDS [Y/N] "; R$
      IF R$ = "Y" OR R$ = "y" THEN GOTO MODULEX ELSE GOTO MODULE4
MODULEX:
      CLS
```

```
        PRINT STRING$(80, "=")
        PRINT TAB(2); "DATE"; TAB(12); "SECTION"; TAB(25); "REC. NO."; TAB(40);
"CASH"; TAB(53); "EXPENSES"; TAB(69); "CASH AT HAND";
        PRINT STRING$(80, "-")
        COUNTER = 0
        GOTO MODULE1
MODULE4:
        CLS
        LOCATE 15, 15: COLOR 1, 5, 5: INPUT "   DO YOU WISH TO PRINT
CUMMULATIVE CASH RECORDS [Y/N]  "; OPT$
        IF OPT$ = "N" OR OPT$ = "n" THEN GOTO MODULE5
        IF OPT$ = "Y" OR OPT$ = "y" THEN CLOSE #1
        CHAIN "CUMPRINT"
MODULE5:
        CLOSE #1
        INPUT "Press ENTER Key to return to Report menu...   "; K$
        CHAIN "REPTMENU"
```

```
REM PROGRAM SEGMENT TO PRINT CUMMULATIVE CASH TRANSACTION
REPORT
      OPEN "I", #1, "CASHREC.DAT"
      SCREEN 0: LET CTR = 0
      CLS : LOCATE 12, 20: INPUT "BEGIN PRINTING ? [CONFIRM `Y/N']  "; A$
      IF A$ = "Y" OR A$ = "y" THEN GOTO MODULE1 ELSE GOTO MODULE4
MODULE1:
      IF EOF(1) THEN GOTO MODULE4
      LPRINT TAB(28); "COMMULATIVE CASH REPORTS"
      LPRINT TAB(28); "************************"
      LPRINT STRING$(80, "=")
      LPRINT TAB(2); "DATE"; TAB(12); "SECTION"; TAB(25); "REC. NO."; TAB(40);
"CASH"; TAB(53); "EXPENSES"; TAB(66); "CASH AT HAND";
      LPRINT STRING$(80, "-")
      INPUT #1, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
      LET CTR = CTR + 1
      LET TOTCASH = (CASHPRI + CASHSEC + PTA)
      LET CASHHAND = (TOTCASH - EXPENSES)
      LET BALCASH = (CASHHAND - BANK - CHEQS)
      LET CUMCASH = (CUMCASH + TOTCASH)
      LET TOTPTA = (TOTPTA + PTA)
      LET TOTEXP = (TOTEXP + EXPENSES)
      LET TOTBANK = (TOTBANK + BANK)
      LET TOTCHEQ = (TOTCHEQ + CHEQS)
      LPRINT TAB(2); DTE$; TAB(12); "PRIMARY"; TAB(25); PRIRECN$; TAB(35);
USING "##,###,###.##"; CASHPRI
      LPRINT : LPRINT TAB(12); "SECONDARY"; TAB(25); SECRECN$; TAB(35);
USING "##,###,###.##  ##,###,###.##  ##,###,###.##"; CASHSEC; EXPENSES;
BALCASH
      LPRINT : LPRINT TAB(2); "TOTAL CASH FOR THE DAY ------->"; TAB(35);
USING "##,###,###.##"; TOTCASH
      LPRINT : LPRINT TAB(2); "BANKED THE SUM OF ------------>"; TAB(35);
USING "##,###,###.##"; BANK
      LPRINT : LPRINT TAB(2); "CUMM. CASH TILL DATE --------->"; TAB(35);
USING "##,###,###.##"; CUMCASH
      LPRINT : LPRINT TAB(2); "CUMM. P.T.A LEVY TILL DATE --->"; TAB(35);
USING "##,###,###.##"; TOTPTA
      LPRINT : LPRINT TAB(2); "CUMM. EXPENSES TILL DATE ----->"; TAB(35);
USING "##,###,###.##"; TOTEXP
      LPRINT : LPRINT TAB(2); "CUMM. MONEY BANKED TILL DATE ->"; TAB(35);
USING "##,###,###.##"; TOTBANK
      REM LPRINT : LPRINT TAB(2); "CUMM. CHEQUE PAYMENTS -------->";
TAB(35); USING "##,###,###.##"; TOTCHEQ
      LPRINT : LPRINT STRING$(80, "-")
      LPRINT : LPRINT
      IF CTR = 2 THEN GOTO MODULE3 ELSE GOTO MODULE1
MODULE3:
      CTR = 0
```

```
    CLS : LOCATE 12, 20: INPUT "DO YOU WISH TO PRINT MORE RECORDS
[Y/N] "; R$
    IF R$ = "Y" OR R$ = "y" THEN GOTO MODULE1 ELSE GOTO MODULE4
MODULE4:
    CLOSE #1
    CLS : PRINT : PRINT
    PRINT "End of data file..."
    INPUT "Press ENTER Key to return to Report menu..."; K$
    CHAIN "REPTMENU"
```

```
REM PROGRAM SEGMENT TO MODIFY CASH RECORDS
      OPEN "I", #1, "CASHREC.DAT"
      OPEN "I", #2, "CASHREC.BAK"
      OPEN "O", #3, "CASHREC.TEM"
      OPEN "O", #4, "CASHREC2.TEM"
RT1:

      IF EOF(1) THEN GOTO RT2

RT2:
      IF EOF(2) THEN GOTO RT3
      INPUT #1, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
      INPUT #2, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
      LET HEAD$ = "D A I L Y   C A S H   T R A N S A C T I O N   R E P O R T"
      LET SUBHEAD$ =
"=============================================================================="
      COLOR 10, 5, 10
      CLS : LOCATE 1, 5: PRINT HEAD$
      LOCATE 2, 5: PRINT SUBHEAD$
      LET TOTCASH = (CASHPRI + CASHSEC)
      LET OVERTOT = (TOTCASH + TOTCHEQ)
      LET BALCASH = (OVERTOT - EXPENSES)
      LOCATE 4, 10: PRINT "CASH TRANSACTIONS AS AT ----------> "; DTE$
      LOCATE 6, 10: PRINT "RECIEPT NO. FOR PRIMARY SECTION -------> ";
PRIRECN$
      LOCATE 7, 10: PRINT "TOTAL CASH PRIMARY SECTION ------------> N";
USING "#,###,###.##"; CASHPRI
      LOCATE 10, 10: PRINT "RECIEPT NO. FOR SECONDARY SECTION -----> ";
SECRECN$
      LOCATE 11, 10: PRINT "TOTAL CASH FOR SECONDARY SECTION ------> N";
USING "#,###,###.##"; CASHSEC
      LOCATE 14, 10: PRINT "TOTAL CASH FOR THE DAY ----------------> N"; USING
"#,###,###.##"; OVERTOT
      LOCATE 15, 10: PRINT "TOTAL CHQ. PAYMENTS FOR THE DAY -------> N";
USING "#,###,###.##"; CHEQS
      LOCATE 16, 10: PRINT "TOTAL P.T.A LEVY PAYMENT --------------> N"; USING
"#,###,###.##"; PTA
      LOCATE 17, 10: PRINT "TOTAL EXPENSES FOR THE DAY ------------> N";
USING "#,###,###.##"; EXPENSES
      LOCATE 18, 10: PRINT "CASH BALANCE FOR THE DAY --------------> N";
USING "#,###,###.##"; BALCASH
      LOCATE 19, 10: PRINT "BANKED THE SUM OF ---------------------> N"; USING
"#,###,###.##"; BANK
      LOCATE 20, 10: COLOR 10, 5, 10: INPUT " DO YOU WISH TO DELETE THESE
RECORDS [Y/N]  "; AN$
      IF AN$ = "Y" OR AN$ = "y" THEN GOTO RT1
      PRINT #3, DTE$: PRINT #3, PRIRECN$: PRINT #3, CASHPRI: PRINT #3,
```

```
SECRECN$: PRINT #3, CASHSEC: PRINT #3, CHEQS: PRINT #3, PTA: PRINT #3,
EXPENSES: PRINT #3, BANK
    PRINT #4, DTE$: PRINT #4, PRIRECN$: PRINT #4, CASHPRI: PRINT #4,
SECRECN$: PRINT #4, CASHSEC: PRINT #4, CHEQS: PRINT #4, PTA: PRINT #4,
EXPENSES: PRINT #4, BANK
    GOTO RT1
RT3:
    CLOSE
    KILL "CASHREC.DAT": KILL "CASHREC.BAK"
    NAME "CASHREC.TEM" AS "CASHREC.DAT"
    NAME "CASHREC2.TEM" AS "CASHREC.BAK"
    PRINT
    PRINT "End of file..."
    PRINT
    INPUT "Press ENTER key to return to report menu..."; e$
    CHAIN "CASH"
```

```
KEY OFF
CLS : LOCATE 12, 20: INPUT "ENER YOUR PASSWORD, PLEASE   "; PW$
IF PW$ = "JPS" OR PW$ = "jps" THEN CHAIN "CASH" ELSE GOTO ROUT2

ROUT2:
    CLS : LOCATE 12, 33: PRINT "WRONG PASSWORD..."
        LOCATE 14, 12: PRINT "PLEASE OBTAIN THE CORRECT PASSWORD FROM
AUTHORISED PERSON":
        LOCATE 14, 70: INPUT ; P$
        END
```

```
REM PROGRAM SEGMENT TO DISPLAY MENU
ROUT1:
 SCREEN 0, 0, 0
 COLOR 10, 5, 10
 CLS : LOCATE 3, 14: PRINT
"=========================================================="
    LOCATE 4, 14: PRINT "= D A I L Y   C A S H   T R A N S A C T I O N S ="
    LOCATE 5, 14: PRINT
"=========================================================="
 LOCATE 8, 15: PRINT "1---> TO INPUT DAILY CASH TRANSACTIONS"
 LOCATE 10, 15: PRINT "2---> TO DISPLAY/PRINT DAILY TRANSACTION
REPORT"
 LOCATE 12, 15: PRINT "3---> TO DISPALY/PRINT CUMMULATIVE REPORT"
 LOCATE 14, 15: PRINT "4---> TO MODIFY EXISTING CASH RECORDS"
 LOCATE 16, 15: PRINT "5---> TO SHUT DOWN PROGRAM"
 LOCATE 19, 25: INPUT "SELECT OPTION [1-5] AND ENTER "; OPT
 IF OPT = 1 THEN CHAIN "CASHBOOK"
 IF OPT = 2 THEN CHAIN "REPTMENU"
 IF OPT = 3 THEN CHAIN "REPTMENU"
 IF OPT = 4 THEN CHAIN "MODICASH"
 IF OPT = 5 THEN END
 GOTO ROUT1
```

```
REM PROGRAM TO DISPLAY DAILY CASH TRANSACTIONS
 LET HEAD$ = "D A I L Y   C A S H   T R A N S A C T I O N   R E P O R T"
 LET SUBHEAD$ =
"=============================================================================="
 OPEN "I", #1, "CASHREC.DAT"
SUB1:
 CLS : LOCATE 1, 5: PRINT HEAD$
 LOCATE 2, 5: PRINT SUBHEAD$
 IF EOF(1) THEN GOTO SUB5
 INPUT #1, DTE$, PRIRECN$, CASHPRI, SECRECN$, CASHSEC, CHEQS, PTA,
EXPENSES, BANK
SUB2:
 CLS : LOCATE 1, 5: PRINT HEAD$
 LOCATE 2, 5: PRINT SUBHEAD$
 LET TOTCASH = (CASHPRI + CASHSEC + PTA)
 LET BALCASH = (TOTCASH - EXPENSES - BANK - CHEQS)
 LET TOTPTA = (TOTPTA + PTA)
 LOCATE 4, 10: PRINT "CASH TRANSACTIONS AS AT ----------> "; DTE$
 LOCATE 6, 10: PRINT "RECIEPT NO. FOR PRIMARY SECTION -------> "; PRIRECN$
 LOCATE 7, 10: PRINT "TOTAL CASH PRIMARY SECTION ----------> N"; USING
"#,###,###.##"; CASHPRI
 LOCATE 10, 10: PRINT "RECIEPT NO. FOR SECONDARY SECTION -----> ";
SECRECN$
 LOCATE 11, 10: PRINT "TOTAL CASH FOR SECONDARY SECTION ------> N";
USING "#,###,###.##"; CASHSEC
 LOCATE 14, 10: PRINT "TOTAL CASH FOR THE DAY ----------> N"; USING
"#,###,###.##"; TOTCASH
 LOCATE 15, 10: PRINT "TOTAL CHQ. PAYMENTS FOR THE DAY -------> N";
USING "#,###,###.##"; CHEQS
 LOCATE 16, 10: PRINT "TOTAL P.T.A LEVY PAYMENTS ----------> N"; USING
"#,###,###.##"; PTA
 LOCATE 17, 10: PRINT "TOTAL EXPENSES FOR THE DAY ----------> N"; USING
"#,###,###.##"; EXPENSES
 LOCATE 18, 10: PRINT "CASH BALANCE FOR THE DAY ----------> N"; USING
"#,###,###.##"; BALCASH
 LOCATE 19, 10: PRINT "BANKED THE SUM OF ----------> N"; USING
"#,###,###.##"; BANK
 LOCATE 22, 10: INPUT "DO YOU WISH TO PRINT THESE RECORDS [Y/N]     ";
AN$
 IF AN$ = "Y" OR AN$ = "y" THEN GOTO SUB3 ELSE GOTO SUB1
 GOTO SUB1
SUB3:
 LPRINT HEAD$
 LPRINT SUBHEAD$: LPRINT : LPRINT
 LPRINT "CASH TRANSACTIONS AS AT ----------> "; DTE$
```

```
 LPRINT : LPRINT : LPRINT : LPRINT "RECIEPT NO. FOR PRIMARY SECTION
--------> "; PRIRECN$
 LPRINT : LPRINT "TOTAL CASH FOR PRIMARY SECTION ---------> N"; USING
"#,###,###.##"; CASHPRI
 LPRINT : LPRINT : LPRINT "RECIEPT NO. FOR SECONDARY SECTION ------> ";
SECRECN$
 LPRINT : LPRINT "TOTAL CASH FOR SECONDARY SECTION -------> N"; USING
"#,###,###.##"; CASHSEC
 LPRINT : LPRINT : LPRINT : LPRINT : LPRINT
 LPRINT "FINAL CASH ANALYSIS FOR THE DAY"
 LPRINT "=============================="
 LPRINT : LPRINT "TOTAL CASH FOR THE DAY ----------------> N"; USING
"#,###,###.##"; OVERTOT
 LPRINT : LPRINT "TOTAL CHEQUE PAYMENTS FOR THE DAY ------> N"; USING
"#,###,###.##"; CHEQS
 LPRINT : LPRINT "TOTAL P.T.A LEVY FOR THE DAY -----------> N"; USING
"#,###,###.##"; PTA
 LPRINT : LPRINT "TOTAL EXPENSES FOR THE DAY -------------> N"; USING
"#,###,###.##"; EXPENSES
 LPRINT : LPRINT "BANKED THE SUM OF ----------------------> N"; USING
"#,###,###.##"; BANK
SUB4:
 LPRINT : LPRINT : LPRINT
 LOCATE 22, 10: INPUT "DO YOU WANT TO VIEW MORE RECORDS [Y/N] "; A$
 IF A$ = "Y" OR A$ = "y" THEN GOTO SUB1
SUB5:
 PRINT
 CLOSE #1
 PRINT
 PRINT "End of file..."
 PRINT
 INPUT "Press ENTER key to return to report menu..."; e$
 CHAIN "REPTMENU"
```

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