TITLE PAGE

APPLICATION OF COMPUTER TOPORTFOLIO MANAGEMENT

(A Case Study of Firstline Investment Limited, Kaduna)

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DECLARATION

I hereby declare that this thesis is original work of Lawal Adebayo Lateef which has never been presented elsewhere in any form of Diploma or degree award.

CERTIFICATION

I certify that this work was carried out by Lawal Adebayo Lateef of the Department of Mathematics and Computer Science, Federal University of Technology, Minna.

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DEDICATION

I dedicated this project to Almighty Allah, the lord of the worlds, may his peace and blessing be upon the Holy prophet Mohammed (S.A.W) His household, companions and all the dedicated and sincere servants of Allah till the day of Judgement (Amen).

ACKNOWLEDGEMENT

Praise and Glorification belong to Almighty Allah, may His peace and blessing continue to be perfected upon the most humbled and beloved in person of holy prophet Muhammad **(S.A.W)** his Households, Companions, and all the dedicated servants of almighty Allah till the day of resurrection.

I wish to express my profound gratitude to my Project Supervisor in person of **Mr. L.N. EZEAKO** for his intellectual advice and patience to see to the completion of this project. This acknowledgement will not be valid if the head of the department in person of **DR. S.A. REJU** and other lecturers in the are not acknowledged for their moral support and academic assistance may Allah reward them abundantly **(Amen)**

I wish to thank my beloved, kind and dedicated wife in person of **FAUZIYAT LAWAL** for her patience and endurance during the course of this program.

I gratefully thank my mother, **MADAM SUEBAT AINKE YUSUF, ALHAJI A.S.MALEEK and ALHAJA A.O MALEEK** for their fatherly and motherly care they have on me, may Allah spare their lives to reap the fruits of their good Deeds.

I also express my gratitude's to all my colleagues and friends as well as my other relatives for their vigorous assistance may **ALLAH** be with every one of you **Amen**

ABSRACT

Portfolio Management involves decision making on an Investment. In many Countries including Nigeria both the large scale and small scale Investment Companies use manual method in Portfolio management. These manual methods have posed several problems, which range from time constraint, tedious calculations as well as insecurity of data. In this project work computer system software that will overcome these problems will be developed. This project uses Dbase iv program software to develop an effective program for the management of portfolio analysis.

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CHAPTER ONE

INTRODUCTION

Financial Management is the process of planning, provision, generation and conservation of finance resources or funds or money.

Portfolio Theory was first established or developed in connection with the investment in stock market securities. The extension to any situation where a collection of investment is made, is quite straight forward and this led to a development of what is known as the Capital Asset Pricing Model for capital budgeting.

Since portfolio management involves decision making on an investment, it is therefore necessary because many investors do not think of the risk associated with the investment proposed or held but concentrated on returns.

Attitudes towards risk vary from person and is governed by one's motivation and needs. Some people love risk while others are risks aversion. Many investors do not think of the risk associated with the investment proposed or held but concentrated on the returns.

Risk bearing is heritable in buying shares, Players in the Capital markets are more risk aversion by their attempt in diversify their holdings.

The calculations that lead to the above mention points are done manually but in the present day it can be done through written software purposely designed for use with electronic data processing (EDP) means.

The application of computer to portfolio management and analysis will help to take off tedious complex calculations and problems of analysis through manual method.

Purpose of the Portfolio Management: The primary objective of this project work is to find out how companies in Nigeria involve themselves in portfolio management. Besides, this study will also find possible solutions to the causes of the inefficiencies in portfolio management if exist.

Moreover, this study will also try to introduce the application of computer to the portfolio management through development of computer software for effective and accurate computations.

Significance of the Portfolio Management: Since many investors are ignorant of how effective and efficient combinations of securities are to be made in order to have maximum returns on their investment and minimise their risk in investment. At the end of this study, an investor should be able to achieve maximum efficiency on his/her risk returns.

The interest of an investor will be highly arosed and encouraged to re-examine the composition of their basket of investment.

It will also increase the knowledge of many students of financial management financial controllers in many organisations as well as student of computer science.

Scope and Limitation of Portfolio Management: This study dealt with the examination of the concept and principles of portfolio management and analysis. It examines the efficiency in portfolio management in some companies in Nigeria. Investors attitude towards the Portfolio Management is another important factors that will be examined. The degree of capital markets efficiency in their operations and other control factors such as interest ruling rates, government policy, etc.

This study will also explain in details the application of Computer to efficient Portfolio Management and analysis.

Necessary suggestions and recommendations based on the finding is within the scope of this study. This is to explain the objectives and mechanics of risk reduction through diversification of portfolio management.

Computer: Computer can be defined as a programmable electronic machine that can be store, retrieve and process data for purpose limited only by creativity of the human's who use it.

Computer can also be defined as a machine which accepts data from an input device, perform arithmetic and logical operations in accordance with a pre-defined program and finally transfers the processed data to an output device either for further processing or in final printed form.

Before computer processing can commence, there must be an input device, which transfers the data into the Computer internal memory in raw form, and produce the output in form of information meaningful to the user.

Computer work as a system. That is it has a set of interacting elements responding to input order to generate output. The following are the computer system components.

a. Hardware: This refers to the physical components of a Computer. It is made up of the mechanical, magnetic, electrical and electronic devices of a Computer. Disk drive, monitor, system units, diskettes, etc are examples of hard ware.

b. Software: This is the general term used to denote all forms of program that control the activities of a computer. It refers to the set of the computer programs. Software helps us to exploit the capabilities of the computer. It can be classified into two.

1. System Software: These are programs usually supplied by the computer manufacturers, which are designed to control the operations of a computer system. They are written to assist the users in the use of the computer system by performing task such as controlling all of the operations required to move data into and out of a computer and enhance the performance of the computer system, especially in the implementation of the application programs. Example of system software is the operating system, translators, etc.
2. Application Software: These are general programs written with a view of solving a problem. This may appear in standard application packages or in a program written by the users or programmers for specific application or use.
3. Application Packages: An application packages is a collection of fully documented programs designed to perform a particular data processing task in more than one organisation. It is a pre-written and tested program that are designed by experts to perform one or more specific purposes. Examples of these packages include, Database Management packages, special sheet packages word processing packages Desktop publishers, statistical analysis packages, etc.

BENEFITS OF COMPUTER TO PORTFOLIO MANAGEMENT

Accuracy and Exact: The computation involves in the calculation of portfolio risk, returns, variance e.t.c are complicated. The manual computations may results in errors and generating poor results but the use of computer gives accurate and exact results.

Time: Computations using manual usually takes considerable amount of time and even becomes boring but the use of computer gives you results that is timely and reliable.

Efficiency: Human computations are subject to errors and errors made in portfolio management analysis may lead to unfavorable results and unfavorable results may lead to wrong decision making but with computer , reliable results are produced, stored and filed for effective decision making for the management.

Problems in firstlines investment on portfolio management

The Firstline investment company is an establishment which is purposely established with the aim of buying and selling securities to the interested individuals. Since the aim of setting any business is to make profits , firstline investment is not left out.

The computations involved in the calculation of portfolio risks, returns variance e.t.c are complicated in which most of the staffs of firstline investment found it difficult using the manual methods. This manual method of computations is prone to errors and generating poor results.

Even where accurate and correct results are generated it is not the timely. That is manual method delay the generation of good results. Where accurate and timely results are not generated, the decision based on that poor results tends to be unreliable.

With these problems in the first line investment limited I found it deemed to develop a system which will overcome these problems.

CHAPTER TWO

DEFINITION OF TERMS

Portfolio: Portfolio can be defined as the judicious selection and holding financial assets such as treasury bills, bonds, shares, stocks, debentures, etc with the aim of achieving maximum returns and reduced its risk to the bearest minimum.

Bonds: A long term loan (I. O. U) from a government, bank, company or other institution promising to repay a loan, with a specified interest, after a specified time.

Debenture: A Promissory Note (I. O. U) such as a bond that is backed by the general credit of the Company and earn a fixed rate of interest.

Stock: An investment in a Company or Organisation.

Collateral: Property offered to secure a loan and subject to seizure upon failure to pay.

Interest: Payment to a borrower from a lender for use of money.

Over-The-Counter: A means of trading not listed on a regular stock exchange.

Securities: Shares or interest in a Company or organisation.

Dividends: A proportionate payment distributed to shareholders of a company.

Yield: The return received from an investment or property. The income from a security as a proportion of its current market price.

Risk: The possibility of realising a return on an investment that is higher or lower than the expected rate of return measure of is higher or lower than the expected rate of return or a measure of how the actual returns will deviate from the expected returns.

Share: Is the interest which a shareholder has in a Company.

Treasury Bills: Investment in the United States government.

Diversification: This is combination of securities in a way to reduce its relative risk.

Investment: Means entrusting one's money in the hand of one person(s) for his/their use with the aim of receiving returns.

Inflation: Is a continuous and persistent general reduction in the purchasing power of money.

Capital Market: Is the market for long term loans and investment.

Stock Exchange: Is a physical location which trade on stocks and shares according to a defined rules and procedures.

Profits: Excess of revenue income over revenue expenses.

Measurement of Portfolio Risk: Portfolio is created to diversify holdings of wealth to achieve simultaneously low risk and high returns. Investors are concerned about their expected returns and the degree of risk associated with that return in choosing security. The usual assumption is that they will be averse to risk, but they will seek to maximise their returns.

The risk of the portfolio depends not only on the riskness of the securities constituting the portfolio but also on the relationship between those securities. Selection of securities that have little relationship with each other on investor is able to reduce relative risk. That is an investor is trying to diversify his investment in the portfolio.

Generally, the effect of diversification on risk is dependent on correlation between the possible returns of the investments comprising the portfolio.

The achievement of reduction in risk diversification depends largely on the co-efficient of correlation. The best results are obtained when the two assets are negatively correlated with the optimum being where the assets are negatively correlated. That is a combination of securities A and B will result in less risk than that attaching to each of the security separately, provided that the correlation is not too high and positive.

The followings are the rules that will help the investor to select a set up strategies which appears better than others.

Where an investor is faced with the two portfolio having the same return but different risk, he should choose the one with lower risk.

Where the portfolio is of the same risk and different returns he should take one with higher returns.

But where the portfolio has both higher returns and lower risk than another, the investor should choose one with the least risk.

Although a successful application of thus, depends on the assumption of risk aversion and further assumption that the investor is only interested in risk and return and not in any other aspect of the security.

For instance, an investor with three portfolio consists of the following associated risk O- and return characteristics.

Portfolio	Returns %	Risk %
A	12.0	5.0
B	15.0	5.0
C	15.0	4.0

If an investor has a choice between A and B Portfolio he will choose B Portfolio because it has a higher returns than A, B and C Investment will be in the favor of C because of its lower risk. If the investor has a choice between the three Portfolio he will choose C because of its higher returns and lower risk.

Capital Market and Stock Exchange: The existence of Capital Market has make it possible for funds to be obtained from local investors channel into official accounts and transferred to private as well as public enterprise for the finance of real capital projects. It is a source for new capital contrast to the security market which deals with securities. The government agricultural, trade, industrial concern benefits from these funds.

Various types of securities such as bonds, equity shares, preference shares, etc are bought and sold on the exchange market. This market helps in fluctuating new capital by new public companies. That is granting quotations to new shares.

The stock exchange market help in the following ways:

a. It provides an essential facilities for raising money for business expansion and development of project through investors own shares.

b. It provides best opportunity for a careful assessment of values of listed securities and the worth of the shares.

c. It increases the liquidity of listed securities by providing a permanent market for exchange of securities quickly and at little loss.

d. The market requires details and periodic information from quoted companies e.g. increase in the value shares, information available to the public and help to establish confidence among investors.

e. It ensures regular flow of capital by helping to mobilise private and public savings and creating avenue for making them available to government and business companies portfolio management.

The rational investment strategy for nay investors depends not only on his own situation but also on what is likely to happen to the economy over the period of which the goal of the investment could be achieved.

In deciding on the investment alternatives available, an investor is expected to ascertain what the state of the economy would be in the future i.e giving answer to the following questions: is the economy growth will continue? Will inflation be static, fall or rise? Accurate answers to these questions will make the investment cook alternative.

It is only when one knows what will happen to the price level over certain time that accurate comparison could be made. This is very difficult to determine because even experts could not say where prices are going. The solution is to read, listen and form an opinion about future price would likely be: although this can not be determined with accuracy.

EFFECTS OF PORTFOLLIO ON COMPANY'S PROFITS

The aim and objective of any investor must be to have a certain return on his investment. As we have discussed so far it could be say that only a careful combination of securities into a portfolio can give us a maximum returns.

Firms investing most of its cash in marketable securities will have a chance of maximizing its total company's profits, if the risk turn to an opportunities. But where the risk turn to threat it will have a drastically fall on the company's total profits as the cash would have being invest3d in another area which would have give certain returns.

Therefore, for a portfolio management to have a favorable effect on the company's total income, it must be efficiently combined.

REASONS FOR STABLE DIVIDENS POLICY

The board of directors, before adopting stable dividends must give a balance judgement between the needs of the company for additional funds and the shareholders need. The age of the company has important effects on its dividends policy. Newly floated company requires much of its earnings to plan replacement and

expansion. A matured company which has good reputation in the capital market depends relatively less on their earnings and can have a clear-cut dividends & policy which may be liberal. The followings are some of the reasons for stable dividend policy's.

(1) **IT ASSISTS IN LONG TERM FINANCING:** When a company anticipates to raise money in the future, it must be bear in mind that the operations of the company now will be part of the records that would be assists the investors to decide whether or not to by the company's shares. A company known for its stable dividends will get more money any time it issues out new shares to finance the company.

(2) **IT CREATS SHAREHOLDERS' CONFIDENCE IN THE MANAGEMENT:** To the shareholders small dividends are better than no dividends. This makes financing more easier for the company. This will help the shareholders to measure the efficiency performance of the management.

(3) **IT IMPROVES THE COMPANY'S CREDITS AND STABILIZES MARKET VALUE OF SHARES:** When dividends are paid, it will avoid unnecessary increases in the share prices and minimizes unhealthy rivalry or competition from the prospective shareholders.

(4) **IT ASSISTS IN LONG TERM PLANNING:** When a company has adopted a stable dividends policy, it can plan in the future how much it needs for distribution of dividends and the remaining part of the profits can be used for any other purpose.

TYPES OF DIVIDENDS

There are various ways, by which dividends may be distributed, there are:

(a) **CASH DIVIDENDS:-** Most companies pays dividends in cash. Before a company declares cash dividends, it must ensure that there are enough found the time the dividend is declared. A cash planning through a prepared budget is

necessary in order to maintain regular dividend payment. When cash dividends are paid the cash account will reduce and earnings also will decrease, affecting the total assets and market price share of the company. The company's market share will fall by an amount equal to the cash dividend paid.

(b) **STOCK DIVIDENDS:** A company may issue out a stock dividend in replacement of cash dividend. It involves issue out new shares to the existing shareholders without demanding them to pay any additional cash for the new issue. The total number of shares will increase. Company's retain earnings will reduce but the total net worth of the company remain the same because it is a transfer form the retain earnings to equity shares.

(c) **STOCK ISSUES:** This is a method where the number of outstanding shares are increased through a proportional reduction in their per value. That is sub-dividing the share par value to increase the number of shares. E q xyz plc sells its shares for N5 per share and having 100 shares before the split. If it reduces the par value of the shares to N1 it will have 500 shares but the total value of the shares remain the same. In the like manner earning per share dividend per share and all other per share will be one fifth of the previous value.

(d) **REVERSE SPLIT:** This is where a company reduce the number of outstanding shares in order to enhance the market value of their shares. This method is usually adopted where the share prices are falling and there is the need to sustain the market price or crop-up the price, it is a reduction in the number of outstanding shares by increasing the per share per value. Example ABC PLC with 200 outstands shares of N2.00 per share, if it declare a reverse split of 1-4 per share. The outstanding share after the reverse split will become 50 shares of N8.00 per share. The reverse split has used to increase the market price per share from N2.00 to N8.00.

CHAPTER THREE

In this stage, a thorough understanding of the current system is necessary to enable one analyze and make recommendation so that effective computerized system procedures may be designed and implemented. Some of the important questions to be answered are:

I. What is the activities performed

II. Why is the present methods adopted

III. How is it done

IV. What are the alternative methods.

Fact-findings techniques refer to specific methods used for collecting data about requirements and for system analysis. The methods used in collecting data in this project includes:

I. **RECORD REVIEW:** The procedure manuals of the company was studied to throw light on the activities that should be taking place in the current system, categories of staff that should be involved in the operations. This serves as a basis for comparing actual operations with what the records indicate.

II. **INTERVIEW:** This was used to obtain information from personnel's using the existing system and other individuals. This interview technique serves as a source of obtaining qualitative information. The actual description of process involved in recording and processing of returns for the securities sold and other related matters was obtained. The opinions were also gathered on how the problem facing the current system could be solved.

III. **OBSERVATION;** Observation of the current system enable first hand information about how activities are carried out. This includes observation of how forms are handled, processed, filled, retrieved, updated, how fast specific steps followed, etc. The observation method serve as a means for comparing the information obtained from the interview and record review technique.

IV. **QUESTIONAIRE:** This is a device for getting answer to questions by deriving a form, which the respondent fills by himself. In many ways, the questions were intended to get the feeling belief, experienced and the abilities of the respondents in this case, relevant questions were used to gather information from respective officers.

Analysis of the Proposed System

This project will be written in Dbase IV. This is the most popular and powerful database management system available for personal computers. It organizes data in the data base files in the form of tables.

Database is an organised collection of related information designed to meet the various needs of an organization. While a data base management system is a package of computer programs and its documentation used to create, maintain organize, retrieve information from a database etc. In other words database management system is software that helps organizations manage their data resources. It also provides the interface between the user and the data in such a way that it enables the user to manage the data contained in a database.

Database management system programs keep information files, and within each files is a collection of related information. The data in a file are organised into rows and columns. The data contain in a row is called record. A column of data is known as a field and the column heading is a field name. The content of a field determines the field type. The usual field types are numeric, character, memo, data, logical etc.

Analysis of the Existing System

The First Line Investment Limited is an organization in which its aim and objective is to buy securities from individuals and sell to the interested party at any point in time. The organization participated in the following items (a) Shares (b) Debentures (c) Government bond etc.

BOUGHT LEDGER: This is the book that is used to record all the types of securities purchased by the organization which will be sold to the interested persons especially when the price goes up.

SALE LEDGER: This is the book that is used to record any security being sold at any point in time.

STOCK LEDGER: This book is used to keep records of all the securities purchased with their respective prices as well as the sales made during the period. It also shows the balance of the items in the records so that at any point in time the management should know what the balance is.

LEDGER RETURNS: This is where the returns of all the various security sold are entered. The returns as calculated as a percentage on the cost price of each type of security. The percentage is not fixed permanently, the percentage depends on the economic situation or the bargaining ability of the buyer.
The returns on each item will be posted to the returns ledger account so that at the end of the year, this ledger record will show all the gross returns of the organization.

SYSTEM DESIGN

A system is a set of components or parts that interacts to accomplish specific purpose. The design of the proposed system involves the transformation of manual operations into automated forms. This includes the development of the structures of the data base files required (i.e input specification), the design of the output screen (i.e. output specification) and the concise logical operations program for the new system.

SYSTEM SPECIFICATION

INPUT SPECIFICATION: This system is a friendly screen based system where data can be entered directly into the computer through the keyboard. The user interface (screen base) system consists of main menu which is a general term that describes both pull down menu and any other vertical menus which are connected to a horizontal bar menu. In this system locating the cursor in the main horizontal menu bar will cause a pull down menu to appear, containing a list of options from which a particular option may be selected. The direction or cursor keys are used to make selections.

This new system is expected to keep the record of the quantities of the securities available, the quantity sold, the quantity bought. This system will also make use of some relevant information like, the quantity of the goods purchased and the quantity sold as well as their prices.

The new system should be able to add new security, update, and deletes security sold and evaluate the balance of the security in the portfolio.

Input design is the first, data collected from the questionnaire and the pass word are data for the input design.

The information gathered from the questionnaire will be represented in the database structure as follows:

RECEIPT OF SECURITY

FIELD	FIELD NAME	TYPE	WIDTH	DECIMAL
1	Name of Seller	Character	25	-
2	Item Name	Character	20	-
3	Address	Character	30	-
4	Quantity Received	Numeric	5	-
5	Price	Numeric	6	2
6	Certificate Number	Numeric	10	-
7	Date	Date	8	-

The receipt input design is to enable the management take records of the goods securities received or bought into portfolio.

SALES INVOICE

FIELD	FIELD NAME	TYPE	WIDTH	DECIMAL
1	Name of Seller	Character	25	-
2	Item Name	Character	20	-
3	Address	Character	30	-
4	Quantity Received	Numeric	5	-
5	Price	Numeric	6	2
6	Certificate Number	Numeric	10	-
7	Date	Date	8	-

This is done to keep track of all the daily transactions and the security sold. The receipt and invoice input designs can now give the system, the information needed to produce an output.

There is another input design, which is not for record keeping but for the security of the data stored in the computer. This is the password, it is used to prevent an unauthorized user from using the computer and getting some information from the data stored there in. This allows the user to make use of the computer and without knowing the password, the computer will not function or process the data.

In this case we have combination of numbers and letters, that is alphanumeric variable for the password.

PASSWORD

FIELD	FIELD NAME	TYPE	WIDTH	DECIMAL
1	L.A.L 2	Alpha Numeric	8	-

PORTFOLIO DBF

FIELD	FIELD NAME	TYPE	WIDTH	DECIMAL
1	Item Name	Character	20	-
2	Certificate No	Numeric	10	-
3	Quantity Received	Numeric	5	-
4	Quantity Sold	Numeric	5	-
5	Quantity on hand	Numeric	5	2
6	Cost Price	Numeric	5	2
7	Selling price	Numeric	5	-
8	Name of Seller	Character	25	-
9	Name of Buyer	Character	25	-
10	Date	Date	8	-

The portfolio DBF enables the user to ascertain what is on hand at any moment and what has been disposed of as well as the quantity received. This will help the management to generate report at any point in time.

OUTPUT SPECIFICATION: One of the most important features of a information system for users is the output it produces. Requirement that were identified during the system investigation will be used to develop the system. The right output must be developed while ensuring that each output element is designed so that people will find the system easy to use effectively. Output may be displayed or printed. The content of the output may originate from receipts and invoice input designs. In this output design we are going to see what the new system is expected to do. The reports are generated in tabular form. Data processing is done when a report selection is made, just before the printing of the result commences. Computations are saved on an external disk or on a hard disk. These files can be updated, modified and used again for computation of alternatives.

SALE INVOICE

FIELD	FIELD NAME	TYPE	WIDTH	DECIMAL
1	Name of Seller	Character	25	-
2	Item Name	Character	12	-
3	Address	Character	25	-
4	Quantity Received	Numeric	5	-
5	Price	Numeric	4	2
6	Certificate Number	Numeric	10	-
7	Date	Date	8	-

SYSTEM REQUIREMENT AND COST ESTIMATION

The table below shows the requirement of the proposed system and their various costs:NAME	QUANTITY	UNIT COST
COMPAQ DESK PRO: Intel Pentium 266, 6.4GB, HDD, 32MB RAM 36 x CD ROM, 1.44MG FDD, 15" SVGA Colour monitor, 128 Bits Sound, 4Mb Vid RAM, Voice/Fax modem, Win Keyboard, mouse, win 2000, office 2000 Auto CAD 14, project lite plus bundle software 1.2 MB 5 ¼ Drive 1.4 MB 31/2 Drive	2	N190,000.00
HP Desk Jet 690 cl	1	N24,000.00
UPS (Uninterrupted Power Supply)	2	N4,500.00
Floppy disk 5 ¼ Size	5	N500.00
Floppy disk 3 ½ Size	5	N750.00
Computer Operators	2	N7,000.00
TOTAL		**N226,750.00**

BENEFITS OF THE PROPOSED SYSTEM OVER THE EXISTING SYSTEM

The problems of the existing system which have been earlier discussed such as time consumption, inefficiency, tedium, poor documentation, materials wastage etc. make

it necessary for the development of a new system, which will effectively solve the problems associated with the manual method. This proposed system offers the following benefits:

a) **SPEED:** The most obvious benefits of using a computer is speed because the computer can perform calculations and data processing data quickly than other alternative methods. Work that might take a very long time to be accomplished is done within short period by the computer. As a result of speed, large volume of transactions can be handled within short periods.

b) **ACCURACY:** When a computer is properly programmed, it will do the intended work with a very high degree of accuracy. Also since computer did not get bored or fatigued, errors that human beings might easily make will be avoided. However, it should be noted that computer does what the program tells it to do.

c) **RELIABILITY:** Computer can work for almost twenty four hours (24 hours) in a day except for a little time out for equipment check out and maintenance. Modern day electronic computers perform at high levels of reliability.

d) **RETENSION AND STORAGE:** Computers can store and search massive files of date and programs and the contents of these files do not fade away or get loss. They are used several times.

e) **WIDE APPLICABILITY:** Computers can be used to solve a wide range of problems and can be used to do a lot of things that seem impossible manually.

f) **HARD COPIES:** Hard copies of information required can easily be printed using powerful and fast printers.

g) **SECURITY:** Security measures can be incorporated in the system so that unauthorized person cannot have access to data and information.

CHAPTER FOUR

TYPE OF THE PROGRAMMING LANGUAGE USED

This project will be written in Dbase iv. This is because Dbase iv is the most powerful and popular and popular database management system available for personal computers. It organizes data in the form files and within each file is a collection of related information. Dbase iv is an advanced version of dbase that provides a full relational database environment to users. Though the control centre and without the use of command language, you can design databases, manipulates and edit records and files generate reports perform data query, design labels and browse databases.

Data fields can be specified with the default values as well as valid ranges. Data can be verified automatically as they are entered into fields.

Further more, up to 255 fields can be specified per record and a database can be related to more them two other databases. Programms and procedures can also be compiled and saved as object codes for faster execution. The most significant improvement of dbase iv over dBASE III plus is the full relationship data capabilities using structured query language that is compatible with IBM (International Business Machines. Data base queries and updates can be performed using the structured query language command is more far powerful than the dbase command language and provides relational database capabilities that far exceed those offered in dBASE III plus. Example using SQL, it is possible to perform queries on relationships that span several data bases without using the large number of commands that would be necessary with dBASE III plus.

Using dBASE IV, up to 255 fields can now be specified per record, and a database can be related to more than two other databases. It also has a large number of memory variables, user definable functions, up to ninety-nine files can be opened at one time here is also improved indexing, a large command have buffer, an improved command line editor, improved printer handling capabilities and faster execution.

FEATURES OF DATA BASE MANAGEMENT

(1) **Data Integration Is Achieved:** In a database, information from several files is co-ordinated, accessed and operated upon as though it is in a single file.

(2) **Data Redundancy Is Reduced:** This is achieved in database management since similar data are not duplicated.

(3) **Data Independence Can Be Achieved:-** In database environment, each application system interfaces with the database management system rather than directly with the database any changes to the data are accommodated by changes to the application program being necessary.

(4) **Data Integrity Can Be Achieved:** Since the data recorded are not duplicated and one updating being sufficient to achieve a new record status for all applications which use the data.

(5) **Data Are Centrally Controlled**: In a database environments data and operations on data are centrally controlled and this allows for proper security of data since there is only one source of data in the organization.

SYSTEM DEVELOPMENT

System Implementation: This includes all activities to be carried out to change over from the old system to the new system. Changing over from one system to a new system is known as conversion. This involves three basic activities. They are: Training, Installation and post implementation.

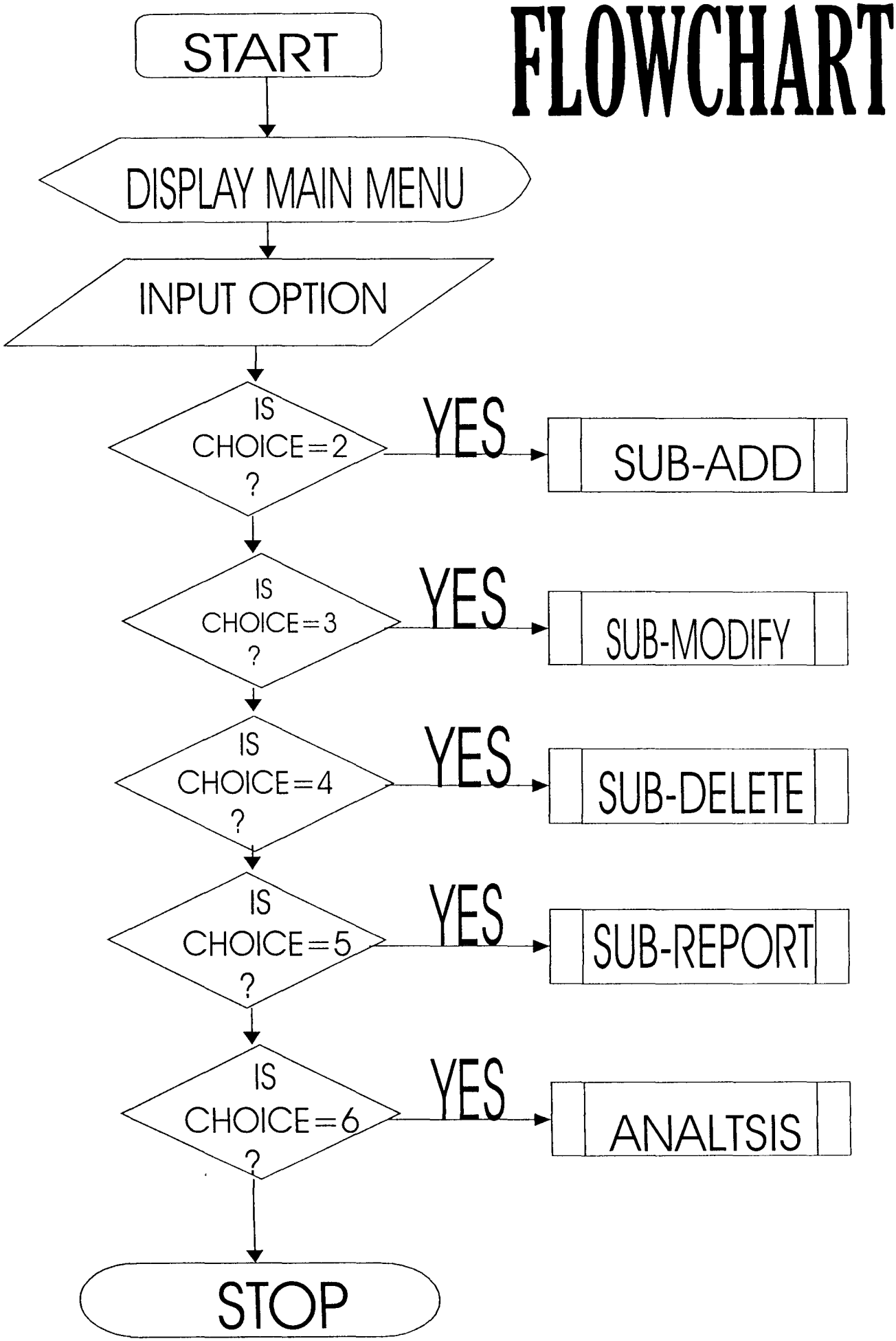
Trainning: Users of the old system need to be trained as per the use of the new system. The computer analyst is required to put the staff through the new system for a short trainning and these ones can pass the knowledge to others.

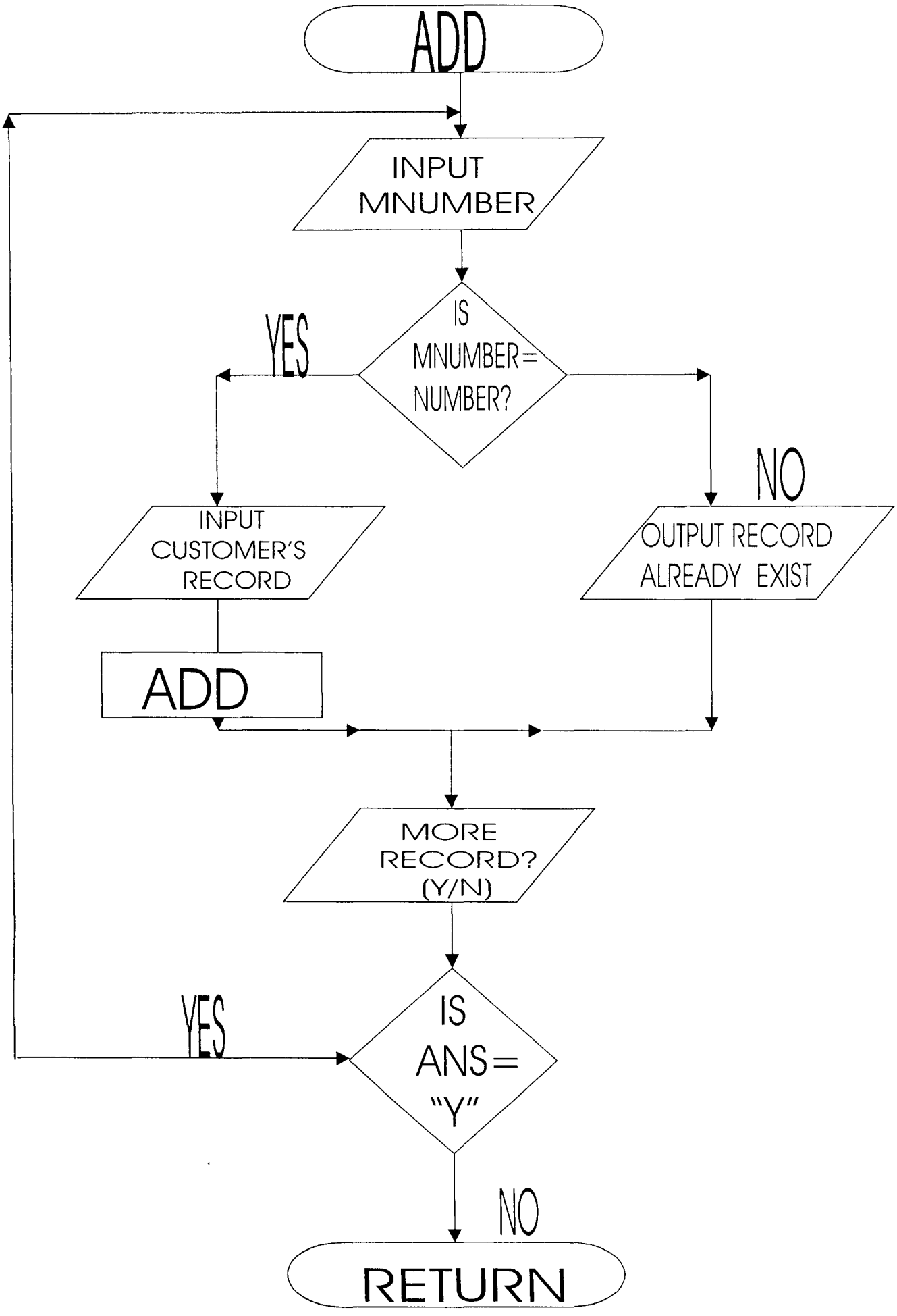
Installation: Stabilizers, computer components both hardware and software, printers, air conditions etc.

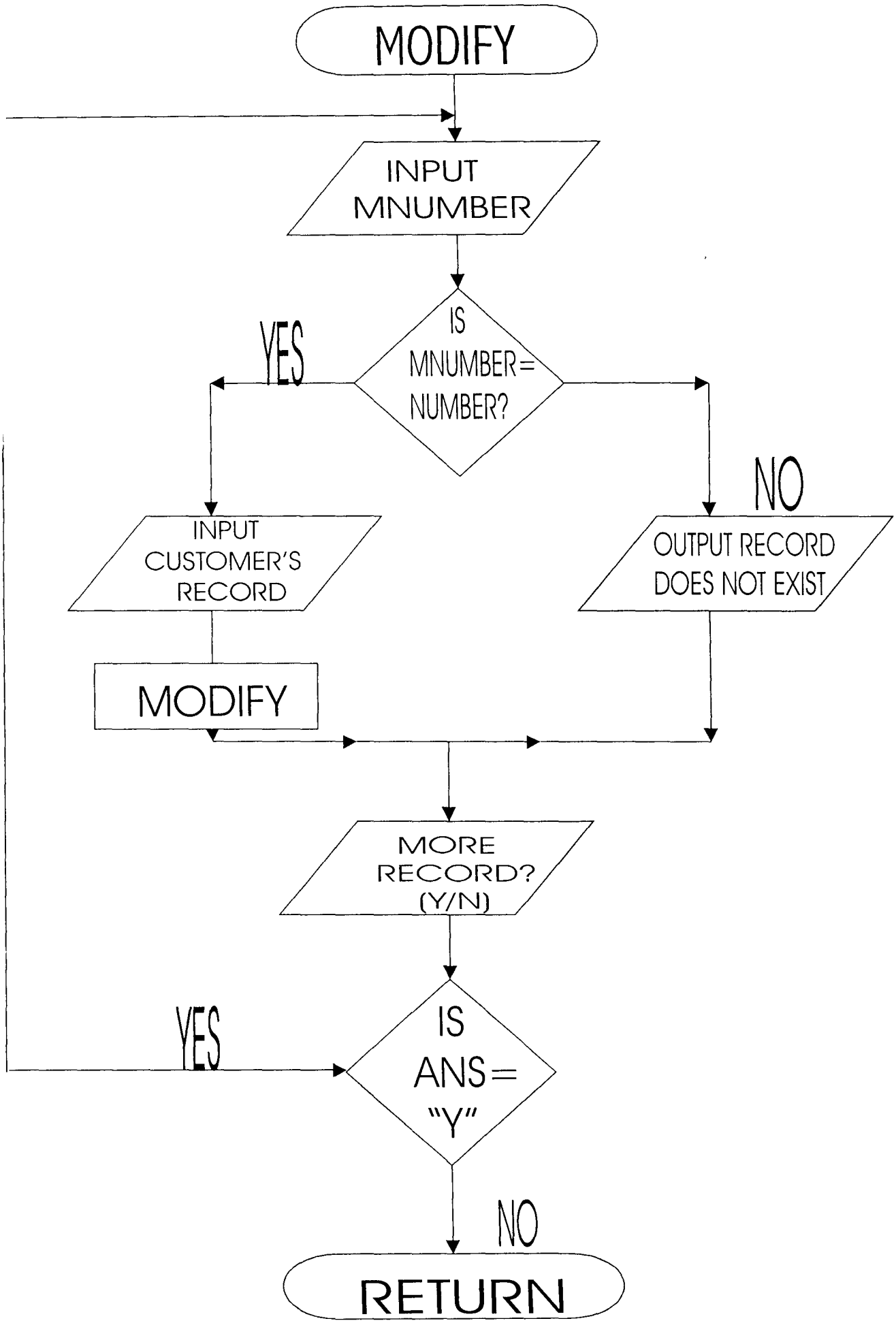
TESTING OF PROGRAMMS

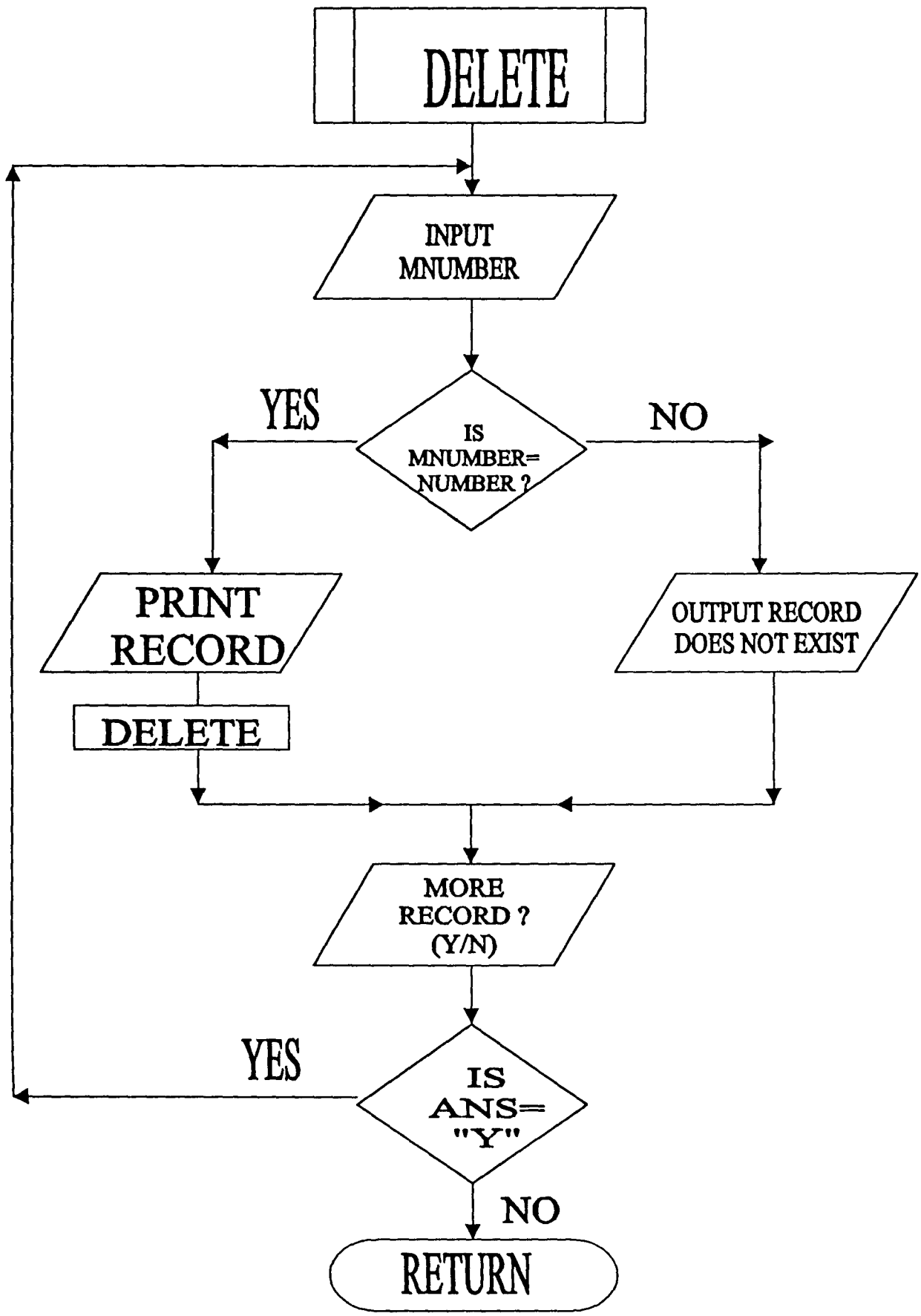
Testing to check that the system is of good quality, some rules were used i.e code testing. Examining the logic of the programs and a specification test that examines what the program should do and how it should be done and the result obtained was

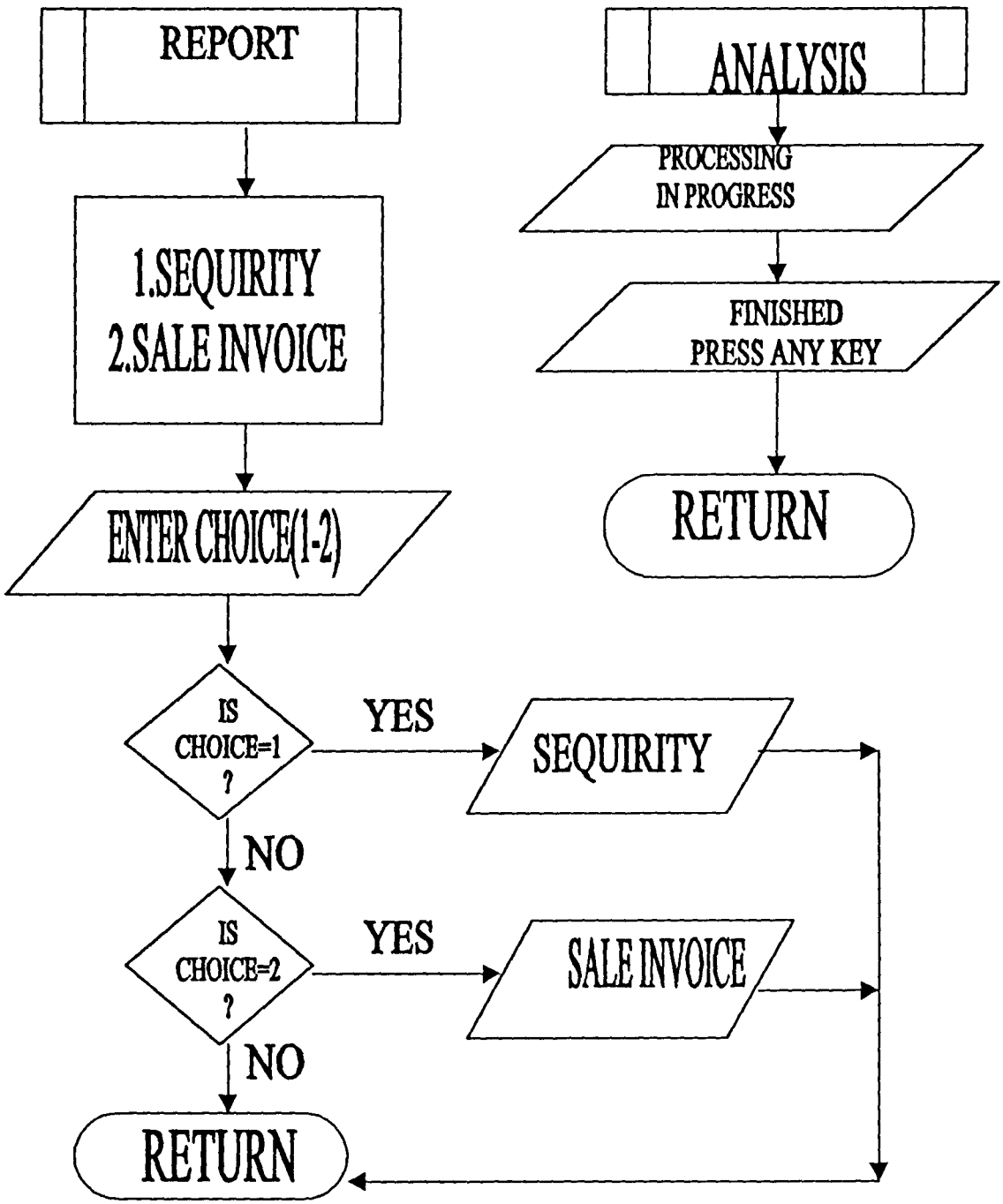
FLOWCHART


START
DISPLAY MAIN MENU
INPUT OPTION
IS CHOICE=2 ?
YES
SUB-ADD
IS CHOICE=3 ?
YES
SUB-MODIFY
IS CHOICE=4 ?
YES
SUB-DELETE
IS CHOICE=5 ?
YES
SUB-REPORT
IS CHOICE=6 ?
YES
ANALTSIS
STOP


ADD
INPUT MNUMBER
IS MNUMBER= NUMBER?
YES
NO
INPUT CUSTOMER'S RECORD
OUTPUT RECORD ALREADY EXIST
ADD
MORE RECORD? (Y/N)
IS ANS= "Y"
YES
NO
RETURN


MODIFY
INPUT MNUMBER
IS MNUMBER= NUMBER?
YES
NO
INPUT CUSTOMER'S RECORD
OUTPUT RECORD DOES NOT EXIST
MODIFY
MORE RECORD? (Y/N)
IS ANS= "Y"
YES
NO
RETURN


DELETE
INPUT MNUMBER
YES
IS MNUMBER= NUMBER ?
NO
PRINT RECORD
DELETE
OUTPUT RECORD DOES NOT EXIST
MORE RECORD ? (Y/N)
YES
IS ANS= "Y"
NO
RETURN


REPORT
1.SEQUIRITY
2.SALE INVOICE
ENTER CHOICE(1-2)
IS CHOICE=1 ?
YES
SEQUIRITY
NO
IS CHOICE=2 ?
YES
SALE INVOICE
NO
RETURN
ANALYSIS
PROCESSING IN PROGRESS
FINISHED PRESS ANY KEY
RETURN

carried out. Alpha testing using assumption i.e executing the system in a simulated environment was carried out. Validation or beta test which is the process of using the system in a life environment for spotting errors. The last test is the certification test where by it will be endorsed for correctness.

System Security: This program security data by the use of codes and by the use of unique names for all programs. This procedures has overtaken some principal threats to data such as carelessness of data entry and loss of data as a result of errors.

Post Implementation: This is a review carried out to check the system again to see if there are any errors not yet identified some of the methods used includes:

Event Logging: That is the user record any unexpected events that affects the system.

Impact Evaluation: That is the user evaluates how the new system affects the organization.

Altitude Survey: That is the data collection of ideas and opinions about how the system has affected the organization.

USING AND ACCESSING THE SYSTEM

As earlier described, the proposed system designed in such away to exhibit the characteristics stated in the system analysis in order to enhance greater achievement/performance in a conducive working environment. To implement the system on installation of a computer system, the diskettes of the proposed system are obtained. In the system diskettes a lot of useful files can be found. These files on the provided diskette (floppy) are transferred to the hard disk of the computer to be used. The following steps are taking in installing the software.

(1) Boot up the system.

(2) Insert the system diskette in the floppy drive A or B. at C\> (prompt) type MD that is (make directory) PORT. At C: prompt CD that is (change directory) that is change to sub directory created. At the subdirectory prompt, type Copy A:**. This leads the system from the hard disk on to RAM.

The computerized PORT system is displayed. After some seconds the users password to gain access into the system. If password is correct, entry into the system working is

allowed. An illegal user will be denied access to the system, however you may be prompted to try again.

On recognition of the password, dialogue, screen will be displayed one after the other. The system is menu-driven as it allows easy interaction with the user. At dot prompt type cd\ Dbase IV (press) enter key. This changes the current directory to the Dbase IV directory, now type Dbase (Press) enter key. This brings you into the Dbase IV environment at the dot prompt type Do port (Press) enter key. A screen appears with two options on the horizontal menu bar. These two options are the Exit and the Main. The Exit selection causes a Pull-down menu to appear which further contains two options. These options are Exit to Dot Prompt and Exit to Dos.

Exit to Dot Prompt: This returns operations to Dbase IV Dot Prompt terminated all other operations.

Exit to Dot Prompt: This closes all files, terminates all jobs and sends operations to the Dos Prompt.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Portfolio has been defined as a careful combination of investment securities particularly financial securities. As it has been emphasis that the essence of holding a Portfolio of financial securities is to reduce risk through diversification. Risks and Returns are positively correlated, that is high above normal returns are usually associated with the above normal risks. This is best achieved by diversification.

As it has been shown that there are certain problems which hamper the full realization of potentials for portfolio diversification in the Nigerian Economy. Some of such problems include ignorance of the investment public inadequate securities, inadequate financial institutions, inefficient security transfer system, etc.

However, the continued substitution of Computer based system for a manual procedure has in modern days become a worldwide affairs. This is due to its relevance in virtually all aspects of human endeavour. This interest is intensified by the capability of computer in performing a given set of procedures with all the necessary accuracy. The use of computer is not subjected to committing errors and its ability to accomplish any task with high speed and within a reasonable time.

Moreover, it could be accepted that a computer based procedures need to be designed in a way to achieve the benefit of computer usage. In terms of speed full automation of procedures, avoid constant problems, ensure data security and so on. It is in recognition of this fact that a newly designed computerized portfolio management is proposed for first line investment limited. The need to apply computerized data processing facilities to financial calculations to aid business decision making is another motivating factor for proposing this system.

Lastly, there are imperatives for system modification and designed as technological development, social, economic and internal changes, organization, establishments and institutions are bound to employ systematic means of reviewing the way their information system performs. This is another factors that prompt for the development of this proposed system. The new system allows for accuracy and efficiency in the information processing and large volume of data can be stored and accessed quickly.

Speed calculations are easily carried out in calculating the returns. Reports that would have taken hours, days or weeks to generate are generated within the shortest time possible because files are easily accessed and information easily retrieved. Security measure is also provided with the use of password. The use of paper has greatly reduced. The system developed is user's friendly.

Conclusively, for any effective system to be designed the following factors must be considered.

1. Production of the designed information at the right time with acceptable level of accuracy and at any economic cost.
2. The need to minimized the time and cost spent on data preparation.
3. Effective safeguard for prevention of frauds.
4. The need to minimized the time and cost spent on processing.
5. Effective security measures in order to prevent loss of data stored in the files.

Since systems are bound to face changes as a result of the fact that changes is dynamic and heritable, therefore this system is subject to modification as the need arise.

```
PROGRAM CODE
SET TALK OFF
SET STATUS OFF
SET SCOR OFF
SET ECHO OFF
DO WHILE .T.
CLEA
@ 4,24 TO 22,54 DOUBLE
@ 5,35 SAY "MAIN MENU"
@ 6,35 TO 6,43 DOUBLE
@ 8,27 SAY "TASK CODE"
@ 8,42 SAY "TASK"
@ 9,27 TO 9,35
@ 9,42 TO 9,45
@ 10,31 SAY "1"+ SPACE(7)+ "ADD ENTRIESS"
@ 12,31  SAY "2"+SPACE(7)+ "MODIFY ENTRIES"
@ 14,31 SAY "3" +SPACE(7)+ "DELETE ENTRIES"
@ 16,31 SAY "4" +SPACE(7)+ "REPORT"
@ 18,31 SAY "5" +SPACE(7)+ "VIEW"
 20,31 SAY "0" +SPACE(7)+ "QUIT"
 HOICE = 0
  23,29 SAY "ENTER TASK CODE:"
  23,48 GET CHOICE PICT "9" RANGE 0,5
 EAD
 ) CASE
 \SE CHOICE=1
 ) PGD6
 \SE CHOICE=2
 ) PGD7
 \SE CHOICE=3
 ) PGD8
 \SE CHOICE=0
 (IT
 \DCASE
 \DDO
 ET STAT ON
 ET TALK ON
 ET SCOR ON
 ETURN

 ET TALK OFF
 ET STATUS OFF
 ET SCOR OFF
 ) WHILE .T.
 LEA
  4,24 TO 16,60 DOUBLE
  5,35 SAY "ADD ENTRIES"
```

```
SET SCOR OFF
DO WHILE .T.
CLEA
@ 4,24 TO 22,60 DOUBLE
@ 5,35 SAY "REPORT"
@ 6,35 TO 6,43 DOUBLE
@ 8,27 SAY "TASK CODE"
@ 8,42 SAY "TASK"
@ 9,27 TO 9,35
@ 9,42 TO 9,45
@ 10,31 SAY "1"+ SPACE(7)+ "RECIEPT SECURITY"
@ 12,31  SAY "2"+SPACE(7)+ "SALE INVOICE"
@ 15,31 SAY "3" +SPACE(7)+ "ANALYSIS"
@ 17,31 SAY "4" +SPACE(7)+ "QUIT"
CHOICE = 0
@ 23,29 SAY "ENTER TASK CODE:"
@ 23,48 GET CHOICE PICT "9" RANGE 0,4
READ
DO CASE
CASE CHOICE=1
DO PGD5
CASE CHOICE=2
 O PGD55
  SE CHOICE=0
  IT
  DCASE
  DDO
  T STAT ON
  T TALK ON
  T SCOR ON
  TURN

  T TALK OFF
  T STATUS OFF
  T SCOR OFF
  E PGD1
  WHILE .T.
  EAR
  ***********DATA ENTRY PROCEDURE**************
   2,4 TO 23,75  DOUBLE
   4,25 SAY "FIRST LINE INVESTMENT LIMITED"
   5,27 SAY "PORTFOLIO ANALYSIS"
   6,20 SAY "DATA ENTRY MODE FOR RECIEPT SECURITY"
  ERT=0
   7,20 SAY "CERTIFICATE NUMBER:"GET CERT PICT "99999"
  EAD
  OCATE ALL FOR CERT=CNUMBER
```

```
DO PGD3
CASE CHOICE=2
DO PGD3B
CASE CHOICE=0
EXIT
ENDCASE
ENDDO
SET STAT ON
SET TALK ON
SET SCOR ON
RETURN

SET TALK OFF
SET STATUS OFF
SET SCOR OFF
DO WHILE .T.
CLEA
@ 4,24 TO 22,60 DOUBLE
@ 5,35 SAY "DELETE ENTRIES"
@ 6,35 TO 6,43 DOUBLE
@ 8,27 SAY "TASK CODE"
? 8,42 SAY "TASK"
  9,27 TO 9,35
  9,42 TO 9,45
  10,31 SAY "1"+ SPACE(7)+ "RECIEPT SECURITY"
  12,31  SAY "2"+SPACE(7)+ "SALE INVOICE"
  15,31 SAY "0" +SPACE(7)+ "QUIT"
  )ICE = 0
  23,29 SAY "ENTER TASK CODE:"
  23,48 GET CHOICE PICT "9" RANGE 0,3
  AD
   CASE
  SE CHOICE=1
   PGD4
  SE CHOICE=2
   PGD4B
  SE CHOICE=0
  IT
  DCASE
  DDO
  T STAT ON
  T TALK ON
  T SCOR ON
  TURN

  T TALK OFF
  T STATUS OFF
```

```
@ 6,35 TO 6,43 DOUBLE
@ 8,27 SAY "TASK CODE"
@ 8,42 SAY "TASK"
@ 9,27 TO 9,35
@ 9,42 TO 9,45
@ 10,31 SAY "1"+ SPACE(7)+ "RECIEPT SECURITY"
@ 12,31  SAY "2"+SPACE(7)+ "SALE INVOICE"
@ 15,31 SAY "0" +SPACE(7)+ "QUIT"
CHOICE = 0
@ 17,29 SAY "ENTER TASK CODE:"
@ 17,48 GET CHOICE PICT "9" RANGE 0,3
READ
DO CASE
CASE CHOICE=1
DO PGD2
CASE CHOICE=2
DO PGD2B
CASE CHOICE=0
EXIT
ENDCASE
ENDDO
SET STAT ON
SET TALK ON
SET SCOR ON
 ETURN

 :T TALK OFF
 :T STATUS OFF
 :T SCOR OFF
 ) WHILE .T.
 .EA
  4,24 TO 22,60 DOUBLE
  5,35 SAY "MODIFY ENTRIES"
  6,35 TO 6,43 DOUBLE
  8,27 SAY "TASK CODE"
  8,42 SAY "TASK"
  9,27 TO 9,35
  9,42 TO 9,45
  10,31 SAY "1"+ SPACE(7)+ "RECIEPT SECURITY"
  12,31  SAY "2"+SPACE(7)+ "SALE INVOICE"
  15,31 SAY "0" +SPACE(7)+ "QUIT"
 HOICE = 0
  23,29 SAY "ENTER TASK CODE:"
  23,48 GET CHOICE PICT "9" RANGE 0,3
 EAD
 O CASE
 ASE CHOICE=1
```

```
ENDIF
ENDIF
ENDDO
CLOSE DATABASE
SET TALK ON
SET STATUS ON
SET SCOR ON
RETURN

SET TALK OFF
SET STATUS OFF
SET SCOR OFF
USE PGD1
DO WHILE .T.
GO TOP
CLEAR
*************DELETE PROCEDURE**************
@ 2,4 TO 23,75  DOUBLE
@ 4,25 SAY "FIRST LINE INVESTMENT LIMITED"
@ 5,27 SAY "PORTFOLIO ANALYSIS"
@ 6,20 SAY "DELETE MODE FOR SALE INVOICE"
CERT2=0
@ 7,20 SAY "CERTIFICATE NUMBER:"GET CERT2 PICT "99999"
READ
LOCATE ALL FOR CERT2=INUNBER
IF .NOT. FOUND()
@ 15,20 SAY "CERTIFICATE NUMBER ALREADY EXIST"
CH3=SPACE(1)
@ 18,20 SAY "ANY MORE ENTRY TO DELETE ? (Y/N)" GET CH3 PICT "!"
READ
IF CH3= "Y"
LOOP
ELSE
EXIT
ENDIF
ELSE
STORE NBUYER TO MNBUYER
STORE SINAME TO MSINAME
STORE DATE2 TO MDATE2
STORE QSOLD TO MQSOLD
STORE SPRICE TO MSPRICE
STORE ADRESS2 TO MADRESS2
@ 7,20 SAY "CERTIFICATE NUMBER:"
@ 7,40 SAY CERT2
@ 9,7 SAY "NAME OF BUYER:" GET MNBUYER PICT "@!"
@ 9,42 SAY "DATE:" GET MDATE2  PICT "@!"
@ 11,7 SAY "ITEM NAME:" GET MSINAME PICT "@!"
```

```
CERT=0
@ 7,20 SAY "CERTIFICATE NUMBER:"GET CERT PICT "99999"
READ
LOCATE ALL FOR CERT=CNUMBER
IF .NOT. FOUND()
@ 15,20 SAY "CERTIFICATE NUMBER ALREADY EXIST"
CH3=SPACE(1)
@ 18,20 SAY "ANY MORE ENTRY TO DELETE ? (Y/N)" GET CH3 PICT "!"
READ
IF CH3= "Y"
LOOP
ELSE
EXIT
ENDIF
ELSE
STORE NSELLER TO MNSELLER
STORE ITNAME TO MITNAME
STORE DATE1 TO MDATE1
STORE QRECIEVE TO MQREC
STORE CPRICE TO MCPRICE
STORE ADRESS1 TO MADRESS1
@ 7,20 SAY "CERTIFICATE NUMBER:"
@ 7,40 SAY CERT
@ 9,7 SAY "NAME OF SELLER:" GET MNSELLER PICT "@!"
  9,42 SAY "DATE:" GET MDATE1  PICT "@!"
  11,7 SAY "ITEM NAME:" GET MITNAME PICT "@!"
  11,42 SAY "QUANTITY RECIEVED:"GET MQREC PICT "9999"
  13,32 SAY "COST PRICE:" GET MCPRICE PICT "N9999"
  15,7 SAY "ADDRESS:" GET MADRESS1 PICT "@!"
 LEAR GETS
 H=SPACE(1)
  21,15 SAY "DO YOU WISH TO DELETE THIS ENTRY ? (Y/N):" GET CH
'ICT "!"
(EAD
:F CH= "Y"
)ELETE
?ACK
@ 22,20 SAY "ONE ENTRY DELETED"
ENDIF
CH2=SPACE(1)
@ 24,20 SAY "DO YOU WISH TO DELETE MORE ENTRY ? (Y/N):" GET CH2
PICT "!"
READ
IF CH2 = "Y"
LOOP
ELSE
EXIT
```

```
ELSE
STORE NBUYER TO MNBUYER
STORE SINAME TO MSINAME
STORE DATE2 TO MDATE2
STORE QSOLD TO MQSOLD
STORE SPRICE TO MSPRICE
STORE ADRESS2 TO MADRESS2
@ 7,20 SAY "CERTIFICATE NUMBER:" GET CERT2 PICT "@!"
@ 9,7 SAY "NAME OF BUYER:" GET MNBUYER PICT "@!"
@ 9,42 SAY "DATE:" GET MDATE2  PICT "@!"
@ 11,7 SAY "ITEM NAME:" GET MSINAME PICT "@!"
@ 11,42 SAY "QUANTITY SOLD:"GET MQSOLD PICT "9999"
@ 13,32 SAY "SELLING PRICE:" GET MSPRICE PICT "N9999"
@ 15,7 SAY "ADDRESS:" GET MADRESS2 PICT "@!"
READ
REPLACE INUNBER WITH CERT2,NBUYER WITH MNBUYER,DATE2 WITH MDATE2
REPLACE SINAME WITH MSINAME,QSOLD WITH MQSOLD,SPRICE WITH MSPRICE
REPLACE ADRESS2 WITH MADRESS2
CH=SPACE(1)
@ 21,15 SAY "DO YOU WISH TO MODIFY MORE ENTRY ? (Y/N):" GET CH
PICT "!"
READ
IF CH= "Y"
LOOP
'LSE
 XIT
 NDIF
 NDIF
 NDDO
 LOSE DATABASE
 ET TALK ON
 ET STATUS ON
'ET SCOR ON
:ETURN

;ET TALK OFF
;ET STATUS OFF
;ET SCOR OFF
JSE PGD1
)O WHILE .T.
3O TOP
CLEAR
*************DELETE PROCEDURE**************
@ 2,4 TO 23,75  DOUBLE
@ 4,25 SAY "FIRST LINE INVESTMENT LIMITED"
@ 5,27 SAY "PORTFOLIO ANALYSIS"
@ 6,20 SAY "DELETE MODE FOR RECIEPT SECURITY"
```

```
REPLACE ITNAME WITH MITNAME,QRECIEVE WITH MQREC,CPRICE WITH
MCPRICE
REPLACE ADRESS1 WITH MADRESS1
CH=SPACE(1)
@ 21,15 SAY "DO YOU WISH TO MODIFY MORE ENTRY ? (Y/N):" GET CH
PICT "!"
READ
IF CH= "Y"
LOOP
ELSE
EXIT
ENDIF
ENDIF
ENDDO
CLOSE DATABASE
SET TALK ON
SET STATUS ON
SET SCOR ON
RETURN

SET TALK OFF
SET STATUS OFF
SET SCOR OFF
USE PGD1
DO WHILE .T.
GO TOP
CLEAR
*************MODIFICATION PROCEDURE**************
@ 2,4 TO 23,75  DOUBLE
@ 4,25 SAY "FIRST LINE INVESTMENT LIMITED"
@ 5,27 SAY "PORTFOLIO ANALYSIS"
@ 6,20 SAY "MODIFICATION MODE FOR SALE INVOICE"
CERT2=0
@ 7,20 SAY "CERTIFICATE NUMBER:"GET CERT2 PICT "99999"
READ
LOCATE ALL FOR CERT2=INUNBER
IF .NOT. FOUND()
@ 15,20 SAY "CERTIFICATE NUMBER ALREADY EXIT"
CH3=SPACE(1)
@ 20,20 SAY "DO YOU WISH TO MODIFY MORE ENTRY ? (Y/N):" GET CH3
PICT "!"
READ
IF CH3= "Y"
LOOP
ELSE
EXIT
ENDIF
```

```
;ET STATUS ON
;ET SCOR ON
<ETURN

;ET TALK OFF
;ET STATUS OFF
;ET SCOR OFF
JSE PGD1
)O WHILE .T.
;O TOP
:LEAR
:**********MODIFICATION PROCEDURE**************
@ 2,4 TO 23,75  DOUBLE
@ 4,25 SAY "FIRST LINE INVESTMENT LIMITED"
@ 5,27 SAY "PORTFOLIO ANALYSIS"
@ 6,20 SAY "MODIFICATION MODE FOR RECIEPT SECURITY"
:ERT=0
@ 7,20 SAY "CERTIFICATE NUMBER:"GET CERT PICT "99999"
<EAD
LOCATE ALL FOR CERT=CNUMBER
IF .NOT. FOUND()
@ 15,20 SAY "CERTIFICATE NUMBER ALREADY EXIT"
CH3=SPACE(1)
@ 20,20 SAY "DO YOU WISH TO MODIFY MORE ENTRY ? (Y/N):" GET CH3
'ICT "!"
 :AD
   CH3= "Y"
  )P
  ;E
  :T
  )IF
  ;E
  )RE NSELLER TO MNSELLER
  )RE ITNAME TO MITNAME
  )RE DATE1 TO MDATE1
  )RE QRECIEVE TO MQREC
  )RE CPRICE TO MCPRICE
  )RE ADRESS1 TO MADRESS1
  7,20 SAY "CERTIFICATE NUMBER:" GET CERT PICT "@!"
  9,7 SAY "NAME OF SELLER:" GET MNSELLER PICT "@!"
  9,42 SAY "DATE:" GET MDATE1  PICT "@!"
  11,7 SAY "ITEM NAME:" GET MITNAME PICT "@!"
  11,42 SAY "QUANTITY RECIEVED:"GET MQREC PICT "9999"
  13,32 SAY "COST PRICE:" GET MCPRICE PICT "N9999"
  15,7 SAY "ADDRESS:" GET MADRESS1 PICT "@!"
  AD
  PLACE CNUMBER WITH CERT,NSELLER WITH MNSELLER,DATE1 WITH MDATE1
```

```
CLEAR
*************DATA ENTRY PROCEDURE**************
@ 2,4 TO 23,75  DOUBLE
@ 4,25 SAY "FIRST LINE INVESTMENT LIMITED"
@ 5,27 SAY "PORTFOLIO ANALYSIS"
@ 6,20 SAY "DATA ENTRY MODE FOR SALE INVOICE"
CERT2=0
@ 7,20 SAY "CERTIFICATE NUMBER:"GET CERT2 PICT "99999"
READ
LOCATE ALL FOR CERT2=INUNBER
IF FOUND()
@ 15,20 SAY "CERTIFICATE ALREADY EXIT"
@ 24,20
WAIT
ELSE
APPEND BLANK
STORE SPACE(15) TO MSINAME
STORE SPACE(20) TO MNBUYER
STORE SPACE(7) TO MDATE2
STORE 0 TO MQSOLD
STORE 0 TO MSPRICE
STORE SPACE(20) TO MADRESS2
@ 7,20 SAY "CERTIFICATE NUMBER:"
@ 7,40 SAY CERT2
@ 9,7 SAY "NAME OF BUYER:" GET MNBUYER PICT "@!"
@ 9,42 SAY "DATE:" GET MDATE2  PICT "@!"
@ 11,7 SAY "ITEM NAME:" GET MSINAME PICT "@!"
@ 11,42 SAY "QUANTITY RECIEVED:"GET MQSOLD PICT "9999"
@ 13,32 SAY "COST PRICE:" GET MSPRICE PICT "N9999"
@ 15,7 SAY "ADDRESS:" GET MADRESS2 PICT "@!"
READ
APPEND BLANK
REPLACE INUNBER WITH CERT2,NBUYER WITH MNBUYER,DATE2 WITH MDATE2
REPLACE SINAME WITH MSINAME,QSOLD WITH MQSOLD,SPRICE WITH MSPRICE
REPLACE ADRESS2 WITH MADRESS2
ENDIF
CH=SPACE(1)
@ 21,15 SAY "ANY MORE ENTRY (Y/N):" GET CH PICT "!"
READ
IF CH= "Y"
LOOP
ELSE
EXIT
ENDIF
ENDDO
CLOSE DATABASE
SET TALK ON
```

```
IF FOUND()
@ 15,20 SAY "CERTIFICATE ALREADY EXIT"
@ 24,20
WAIT
ELSE
APPEND BLANK
STORE SPACE(15) TO MNSELLER
STORE SPACE(20) TO MITNAME
STORE SPACE(7) TO MDATE1
STORE 0 TO MQREC
STORE 0 TO MCPRICE
STORE SPACE(20) TO MADRESS1
@ 7,20 SAY "CERTIFICATE NUMBER:"
@ 7,40 SAY CERT
@ 9,7 SAY "NAME OF SELLER:" GET MNSELLER PICT "@!"
@ 9,42 SAY "DATE:" GET MDATE1  PICT "@!"
@ 11,7 SAY "ITEM NAME:" GET MITNAME PICT "@!"
@ 11,42 SAY "QUANTITY RECIEVED:"GET MQREC PICT "9999"
@ 13,32 SAY "COST PRICE:" GET MCPRICE PICT "N9999"
@ 15,7 SAY "ADDRESS:" GET MADRESS1 PICT "@!"
READ
APPEND BLANK
REPLACE CNUMBER WITH CERT,NSELLER WITH MNSELLER,DATE1 WITH MDATE1
REPLACE ITNAME WITH MITNAME,QRECIEVE WITH MQREC,CPRICE WITH
MCPRICE
REPLACE ADRESS1 WITH MADRESS1
ENDIF
CH=SPACE(1)
@ 21,15 SAY "ANY MORE ENTRY (Y/N):" GET CH PICT "!"
READ
IF CH= "Y"
LOOP
ELSE
EXIT
ENDIF
ENDDO
CLOSE DATABASE
SET TALK ON
SET STATUS ON
SET SCOR ON
RETURN

SET TALK OFF
SET STATUS OFF
SET SCOR OFF
USE PGD1
DO WHILE .T.
```

```
@ 11,42 SAY "QUANTITY SOLD:"GET MQSOLD PICT "9999"
@ 13,32 SAY "SELLING PRICE:" GET MSPRICE PICT "N9999"
@ 15,7 SAY "ADDRESS:" GET MADRESS2 PICT "@!"
CLEAR GETS
CH=SPACE(1)
@ 21,15 SAY "DO YOU WISH TO DELETE THIS ENTRY ? (Y/N):" GET CH
PICT "!"
READ
IF CH= "Y"
DELETE
PACK
@ 22,20 SAY "ONE ENTRY DELETED"
ENDIF
CH2=SPACE(1)
@ 24,20 SAY "DO YOU WISH TO DELETE MORE ENTRY ? (Y/N):" GET CH2
PICT "!"
READ
IF CH2 = "Y"
LOOP
ELSE
EXIT
ENDIF
ENDIF
ENDDO
CLOSE DATABASE
SET TALK ON
SET STATUS ON
SET SCOR ON
RETURN
SET TALK OFF
SET STAT OFF
SET ECHO OFF
SET SCOREBOARD OFF
USE PGD1
GO TOP
CLEAR
@3,25 SAY "FIRST LINE INVESTMENT LIMITED"
@4,23 SAY "PORTFOLIO ANALYSIS REPORT"
@5,25 SAY "ON RECIEPT SECURITY"
@6,2 SAY "NUMBER"
@6,8 SAY "NAME OF SELLER"
@6,26 SAY "ITEM NAME"
@6,47 SAY "DATE"
@6,58 SAY "QUANTITY RECIEVED"
@6,63 SAY "COST PRICE"
@6,68 SAY "ADDRESS"
M=7
```

```
DO WHILE .NOT. EOF()
@M,2 SAY CNUMBER
@M,9 SAY NSELLER
@M,26 SAY ITNAME
@M,47 SAY DATE1
@M,58 SAY QRECIEVE
@M,63 SAY CPRICE
@M,68 SAY ADRESS1
SKIP
M=M+1
*SKIP
ENDDO
WAIT
SET ECHO ON
SET STAT ON
SET TALK ON
RETURN

SET TALK OFF
SET STAT OFF
SET ECHO OFF
SET SCOREBOARD OFF
USE PGD1
GO TOP
CLEAR
@3,25 SAY "FIRST LINE INVESTMENT LIMITED"
@4,23 SAY "PORTFOLIO ANALYSIS REPORT"
@5,28 SAY "ON SALE INVOICE"
@6,2 SAY "NUMBER"
@6,8 SAY "NAME OF BUYER"
@6,26 SAY "ITEM NAME"
@6,47 SAY "DATE"
@6,58 SAY "QUANTITY SOLD"
@6,63 SAY "SELLING PRICE"
@6,68 SAY "ADDRESS"
M=7
DO WHILE .NOT. EOF()
@M,2 SAY CNUMBER
@M,9 SAY NBUYER
@M,26 SAY ITNAME
@M,47 SAY DATE2
@M,58 SAY QSOLD
@M,63 SAY SPRICE
@M,68 SAY ADRESS2
SKIP
M=M+1
*SKIP
```

```
ENDDO
WAIT
SET ECHO ON
SET STAT ON
SET TALK ON
RETURN

SET TALK OFF
SET STAT OFF
USE PGD1
GO TOP
@10,20 SAY "FIRST LINE INVESTMENT LIMITED"
@12,15 SAY "PORTFOLIO ANALYSIS"
@14,25 SAY "TOTAL QUANTITY RECIEVED="
@16,25 SAY "TOTAL QUANTITY SOLD ="
@18,25 SAY "QUANTITY AT HAND ="
@20,25 SAY "RETURNS = "
DO WHILE .NOT. EOF()
STORE QRECIEVE TO QSS
STORE QSOLD TO QDD
STORE 0 TO TQR
STORE 0 TO TQS
STORE 0 TO IR
STORE 0 TO QH
TQR=TQR+QRECIEVE
TQS=TQS+QSOLD
IR=IR+SPRICE*0.1
REPL TOTQR WITH TQR,TOTQS WITH TQS,INTREST WITH IR
SKIP
ENDDO
USE PGD1
QH=TOTQR-TOTQS
REPL QHAND WITH QH
@14,52 SAY TOTQR
@16,52 SAY TOTQS
@18,52 SAY QHAND
@20,52 SAY INTREST
WAIT " "
SET TALK ON
SET STAT ON
RETURN


SET TALK OFF
SET STAT OFF
USE PGD1
STORE QRECIEVE TO QRR
```

```
STORE QSOLD TO QSS
STORE 0 TO STOT
STORE 0 TO QTOT
STORE 0 TO QHH
STORE 0 TO IR
DO WHILE .NOT. EOF()
QTOT=QTOT+QRECIEVE
STOT=STOT+QSOLD
QHH=QTOT-STOT
IR=IR+SPRICE*0.1
SKIP
REPLACE QHAND WITH QHH,TOTQR WITH QTOT,TOTQS WITH STOT,INTREST
WITH IR
ENDDO
@8,30 SAY "FIRST LINE INVESTMENT LIMITED"
@9,30 say REPLICATE ("=",24)
@10,30 SAY "PORTFOLIO MANAGMENT REPORT"
@11,30 SAY replicate ("=",27)
@16,30 SAY "QUANTITY AT HAND:="
@16,50 SAY QHAND
@12,30 SAY "QUANTITY RECIEVED:="
@12,51 SAY TOTQR
@14,30 SAY "QUANTITY SOLD:="
@14,48 SAY TOTQS
@18,30 SAY "RETURN:="
@18,48 SAY INTREST
WAIT " "
SET TALK ON
SET STAT ON
RETURN
```

FIRST LINE INVESTMENT LIMITED
PORTFOLIO ANALYSIS REPORT ON RECEIPT SECURITY

NUMBER	NAME OF SELLER	ITEM NAME	DATE	QUANTITY RECEIVED	COST PRICE	ADDRESS
1001	LAWAL T.	DEBENTURE	1\2	200	1000	TUNGA
1002	TAWFIQ J.	DEBENTURE	3\2	100	1100	BOSSO
1003	FADAIRO K	DEBENTURE	4\2	50	900	D/KURA
1004	FOLAKE M.	DEBENTURE	5\3	70	700	D/KURA
1005	QAZEEM A.	DEBENTURE	6\4	50	1500	LAGOS

FIRST LINE INVESTMENT LIMITED
PORTFOLIOANALYSIS REPORT ON RECIEPT SECURITY

NUMBER	NAME OF SELLER	ITEM NAME	DATE	QUANTITY RECIEVED	COST PRICE	ADDRESS
1211	BOLA F.	DEBENTURE	5/12	300	700	BOSSO
1212	ABDUL L.	DEBENTURE	6/12	400	1000	TUNGA
1213	KEMI J.	DEBENTURE	7/12	200	800	LAGOS ST
1214	BABA O.	DEBENTURE	8/12	100	500	BOSSO
1215	KAFAYAT	DEBENTUTER	9/1	200	1200	TUNGA

FIRST LINE INVESTMENT LIMITED

PORTFOLIO ANALYSIS REPORT

QUANTITY RECEIVED:=	1200
QUANTITY SOLD:=	470
QUANTITY AT HAND:=	730
RETURN:=	520