

**COMPUTER APPLICATION TO DISTRIBUTIVE TRADE.  
(A CASE STUDY OF SOME SUPERMARKETS IN MINNA)**

A PROJECT SUBMITTED TO THE DEPT. OF MATHS/STATISTICS/ COMPUTER  
SCIENCE, F.U.T. MINNA IN PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE AWARD OF POST-GRADUATE DIPLOMA IN COMPUTER SCIENCE

**BY**

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CERTIFICATION

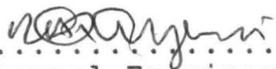
This is to certify that this project work was carried out by Mrs. Chinyere Lilian Anunobi as part of the requirements for the award of post-Graduate Diploma in Computer Science of the Federal University of Technology, Minna, *Niger State*.

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## DEDICATION

TO my darling husband, Mike and my lovely children,  
Chinonso, Chisom, Ngozi and Chiamaka.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Preamble

In the olden days, it became clear that no family could be economically self-sufficient for long, specialization in production and the exchange of items produced, with items needed were introduced. This is known as barter and it marked the beginning of distribution.

Barter is a direct exchange of goods. This method was not practical as traders could not always find other traders with exactly the kind of goods they wanted. What was needed was a medium of exchange and this led to the introduction of money.

With improved transport system, nations traded one with another. A country would produce goods which is transported to another country. It is now possible for a trader to offer for sale a wide variety of goods, This marked the beginning of a new era in distribution.

Distribution involves the movement of products in all stages of development from resource procurement through manufacturing and to final sales. Raw materials offer little satisfaction until they reach the hands of the producers and are turned into finished products. From this point,

distribution can be seen as adding value or satisfaction to raw materials by moving them to the manufacturer, to intermediaries and finally to the ultimate consumer.

These intermediaries are also called "middlemen". The wholesalers and retailers form bulk of the middlemen in distributive trade. The wholesaler sells goods to others who buy them either to resale or for industrial use. The retailer sells directly to the consumers. They also buy from the wholesalers as products move through the distribution channel. Example of retailers are supermarkets.

Supermarkets are large self-service stores that carry a full line of food products and non food products. They are found mainly in urban areas.

## 1.2 Objective of the Study.

The goal of any supermarket is to satisfy their customers. This is not really achieved.

The aim of this study is to

- (a) Computerize sales transaction in supermarkets, thereby checking dishonesty among the sales clerks.
- (b) Generate information on any stock.
- (c) Generate profit and loss statement
- (d) Control inventory in order to avoid out of stock

situation.

This can be done by a computer because it is an electronic device that is capable of accepting data, processing it and producing information faster and accurately than human efforts.

### **1.3 Justification of the Study.**

Retailers are the last chain of distribution linking the consumers. Supermarkets are one of the retail outlets, they carry food products and non food products. There is need that good services should be rendered to customers in a quicker and more efficient way. This is why computer is being introduced to some supermarkets in Minna. Computerized inventory control reduces spoilage and prevents out of stock situation.

### **1.4 Methodology of the Study.**

Retailing covers all of the activities involved in the sales of goods and services to final consumers. A retailer is usually selling more than just individual items.

The distribution of goods particularly in retailing has changed enormously. Some years ago, the small shop, usually a one man or family business was the dominant form of retail. Recently, large organizations have emerged. Though small shop such as kiosk still have a significant share of retail trade.

The business climate we operate today, is different from that of centuries ago. Large scale business are expanding daily. Most of these supermarkets started as a retail outlet on a small scale. Their expansion was as a result of:-

(a) Increasing sales of the existing range of goods and services.

(b) Selling more expensive goods thus achieving a higher monetary turnover at the same percentage of profit.

(c) By bringing additional lines into the range so that existing customers maybe persuaded to purchase more of their requirements from the shop.

Supermarkets, which is one of the retail outlets are large self-service stores that carry a full line of food products and non food products. They are mainly found in the urban areas. In supermarkets, items of the same category are placed together for easy identification. Careful attention is given to the layout of the store and the placing of various items so that customers have to go through all the shelves to purchase their goods. Customers serve themselves from the goods displayed openly, placing them in the trolley or basket provided and paying for them at the counter near the stop exit. These items carry price tags. At the counter, adding machine is used to sum up items purchased. A store

house is provided in the supermarket to maintain stock. Supermarkets buy their goods from the wholesalers since wholesalers form a link between retailers and manufacturers, and they deal in large rather than small quantities.

To ensure that items are not suddenly out of stock, some supermarkets take quick glance of the items on sales on daily bases. However, stock-taking is done twice yearly to check against pilfering.

Furthermore, some problems were also revealed:-

(a) Pilfering

Some customers steal some of their products, since they do not have adequate way of taking note of such act. Presently, the sales clerks stay at strategic positions watching over dubious customers.

(b) Identification of items sold.

with the use of adding machine, they cannot identify the products sold and quantity remaining. They at times run out of stock.

(c) Profit and loss statement.

with the use of adding machine, profit and loss statements are not generated.

(d) Generating information on any stock.

This cannot be done with the use of adding machine.

All the problems noted above have not been overcome. Today, all large business firms even many small firms employ computer in processing data. The more expensive, high capacity computers used by large firms are usually called mainframe computers. In recent years, advancing technology has reduced both the size and cost of computers and small computers are now used (microcomputers) by many organizations. Both types of computers have advantages of speed in processing, fast retrieval of data and less human intervention on processing.

. If computer is introduced in supermarket it will help prevent out of stock situation and pilfering as quantity of products sold and quantity remaining can easily be determined.

### 1.5 Scope and Limitation

This project is on supermarkets which is one of the retail outlets. Due to financial problems all the supermarkets in Minna cannot be used but a few of them. The recommendations can be applied to other supermarkets and other forms of retail outlets like Departmental stores.

## **CHAPTER TWO**

### LITERATURE REVIEW

#### 2.1 Trading Pattern

Trade began with the exchange of goods by primitive people. This is known as barter. Due to the problems encountered by barter, money was introduced. Early forms of money were often very different from the notes and coins we have today. Some societies used shells, metals, cowries, gold and silver for this purpose. the introduction of money made distribution easier.

Two developments in the 19th century brought a revolution in trading system across the world. One was the development of railroads and streamships, which could carry goods rapidly from one place to another. The second was the perfection of heavy machinery, which could produce goods cheaply and quickly.

This development helped traders to offer for sale different varieties of goods from many sources. Efficient distribution of goods is essential if a nation is to function satisfactorily. As goods move from producers or manufacturers to consumers, they are handled by various distributors. The distributors help to give the consumer easy access to goods. The end result of the distributive system is that a wide variety of goods and services is readily available to every consumer.

The wholesalers and retailers form the bulk of the middlemen (distributors) in distributive trade. Wholesalers form a link between retailers and manufacturers and they deal in large rather than small quantities. Retailers are people who buy goods from the wholesalers and then sell to their customers, who are the final consumers.

Nonyelu G. Nwokoye stated that "Retail operators in Nigeria are quite a diverse group. Street hawkers are very visible, even though they move very little volume of goods. They sell mostly light, general articles. Traders are retailers found in market places and adjoining stores. They may specialize in a line of goods or carry general articles. Road side kiosk operators and shopkeepers who typically occupy a front room of a residential building, deal in convenient general goods and provisions. These are what may be called convenience stores since they are located usually where the consumers live".

Furthermore, Rachman and Mescon explained that "Retail outlets can be divided into various categories. The most important are department stores, supermarkets, discount stores and convenience stores.

Department stores are large retail establishment that bring together a vast variety of merchandize under one roof, and departmentalize their operating functions. Department stores have long been dominant in general merchandize retailing because they are uniquely equipped to serve the need of middle and upper class women, who do most of the consumer buying in the united states.

Discount stores, which developed after world war II, sell a variety of goods below traditional market prices. Many discount stores carry broad lines of both nationally advertised and private-brand goods.

The large departmentalized food stores known as supermarkets vary in size from those with annual sales of less than half a million dollars to giant blocklong stores with annual sales of several millions dollars".

According to Peter J. Goodridge (1980) "Fifty years ago, virtually all selling was conducted on a personal basis with one sales assistant dealing with one customer at a time, finding out his needs, showing the merchandize and taking the cash. In small shops this was usually done from behind a counter. Since that time selling has tended to become less and less personal due to many factors such as vast increase in the variety of goods available, more persuasive advertising and higher wages, all leading to enormous increase in retail trade".

## 2.2 Inventory

Rom J. Markin (1971) defined inventory as "goods held on hand for the production process or for sales to final customers".

Many supermarkets need a fair sizable inventory of products to meet customers demand quickly. If inventory were not tracked, workers might waste time searching for a particular product or the attendants might not know when certain supplies were low or used up, this might affect relationships with customers by promising products that were unavailable.

David . J. Rachman and Michael .H. Mescon (1985) described two important inventory accounting methods, periodic and perpetual "picture two calendars. One is the monthly wall calendar variety, with each sheet representing an entire month. The other is a daily desk calender, with individual sheet representing individual days. Each of the calendars might roughly be compared to one of the basic system of inventory accounting.

Periodic inventory accounting doesn't lose sight of individual items, but it records only the amount of the sales as if we are crossing off the days on the monthly sheet. With periodic accounting the profits and loss are recorded and balanced on some regular (periodic) basis, as one tears off the sheet of the calendar each month.

The perpetual inventory system, on the other hand, maintains accounts for every inventory change in detail. Inventory records are constantly being adjusted; each new item acquired is added to the appropriate account, and inventory is reduced for each sale. Perpetual inventory records always show where the inventory level stands at any given time. It is also more difficult to keep".

Peter J. Goodridge (1980) explained that "No matter how well and accurate the stock records are kept, it is necessary to check them regularly by stock taking. This involves actually counting each item in the stock room and selling area. Stock taking must be carried out at least once a year but most firms do it more often than this as a check against mistakes and theft".

Rom J. Markin stated that "variety stores, department stores, supermarkets cannot effectively use perpetual inventory system because of the record keeping and burdensome detail involved with such a large and diverse merchandise assortment".

### 2.3 Supermarket and the Computer.

The planning and control of merchandise inventories has always amounted to a complex, time consuming task, involving considerable amount of hours. In the manual form of

inventory, it requires a lot of paper work, tabulating and classifying of information. To a considerable extent, the electronic computer and a complementary assortment of hard and software packages have eliminated these problems.

According to Rom J. Markin (1971) "The computer offers almost unbelievable assistance in terms of inventory planning and control activities for both the individual store and the chain operation. In the chain operation, Electronic Data Processing (EDP) System form the basis of an information network that makes it possible to tie the inventory management, physical distribution and merchandising activities of all the units into a centralized information management system, resulting in better overall planning and control.

The computer not only offers valuable assistance in terms of managing existing inventories, but in some instance computer are being tested to purchase orders base upon the buyers forecast of sales potential. The equipment is also being used to predict future sales on the basis of past sales performance".

Furthermore, ways of stock taking varies from simple stock record books, cards and expensive computers. According to Peter J. Goodridge (1980) " A system is preferred because it may be possible for a stock keeper to retain all the necessary information in his head, but chaos will result

when he is on holiday or sick and someone else has to takeover. All computers record the same basic information. There is a starting balance for each item, goods received are added on the balance and goods issued are deducted from it. The records must be kept up-to-date; If this is not done the system is useless and misleading. Accurately kept records will show the current balance of each item at any time and will indicate when stock is falling to a dangerously low level or conversely, if an excessive quantity of a particular item is being held. They can also give warning of pilfering and mistakes.

Furthermore, Charles D. Schewe (1987) explained that "Technological advances have revolutionalized the opportunities open to retailers. Perhaps, the largest impact so far has been at the checkout counter, where products labelled with optical scanner codes pass over an electronic scanner that records the transaction. The impact of scanners has been so great that supermarkets have become channel captains as a result of the power they gained from the possession of detailed data on sales and inventory. Computerized checkout lowers cost of many fronts: it reduces checkout time, cut down on mistakes and eliminate price-marking tasks. The computer has many other applications for modern retailers. For example, with the push of a button, retailers can know how much profit each item bring in".

Many different devices and systems are used to mark goods ranging from simply writing the price on the item to the use of magnetically coded tickets such as kimball tag, which are read by a hand-held scanning device.

Shelley J. and Hunt R. (1989) stated that "Numerous methods of capturing data to the computer are employed and this is reflected in the way the items for sale are marked, with such information as stock number and price . Some point of sale systems are designed to read coded information from perforated (or punched) tags or cards referred to as kimball tags. Kimball tags are special type of price tag used in retailing which contain printed and punched or magnetically encoded information. They are used to improve the control of merchandising by means of automated tag system, which provide facilities for punching information into the tags. Information are read by the use of a hand-held or pen reader. An operator waves the hand over the sales information to be recorded and through this action the information is used using optical character recognition technique.

Sometimes, the marking of goods is done using bar codes rather than normal character for ease of recognition by the reading device. A bar code is read typically by means of a light pen used in conjunction with a portable data capture terminal. In all the methods mentioned above the accuracy of the collection of data is the responsibility of the machine".

However, another option is the use of keyboard coding system. This involves typing in the codes of the products by the operator.

The cashier enters the code as well as the quantity of the item a customer is purchasing into the computer. The system will provide facility for quick reference of the code. The keyboard coding system will be more appropriate since we are still developing technologically.

## **CHAPTER THREE**

### **SYSTEM ANALYSIS AND DESIGN**

#### **3.1 Introduction**

System analysis entails a full description of the existing system, because before any change in an organizational set-up is considered, the need for the change must be identified and critically examined to justify the change. The analysis may lead to a number of possible designs.

#### **3.2 Requirement Investigation.**

This activity uses a variety of tools and skills to study the current system and documents its features for further analysis. The facts finding technique used in this study are

- (a) Interview
- (b) Observation.

The investigation were based on the operation of supermarkets. Results obtained from the facts finding are documented. This will help in the design of the new system.

The operations are stated below:

##### **1. customers selecting items**

Customers pick up their needs, placing them in the baskets provided by the supermarket.

##### **2. paying at cash points.**

After selecting the needed items, they pay to the cashier, who uses the adding machine to sum up the amount of goods purchased.

3. Rendering of daily account by cashier.

After the day's job, the cashier renders the account of all transactions made to the accounts manager.

4. purchase of new items by the purchasing Manager.

When stock is at a low level, the purchasing Manager collects money from the accounts manager and buy things for the supermarket.

5. Fixing of prices items.

Prices are fixed on items on shelves to enhance speed on operation. This is done by the sales clerk.

6. Stock taking.

A typical stock taking involves the management agreeing on a particular day. This date might be made known to customers as there will not be normal operation.

Normally, all the staff of the supermarket should be present. A list of all goods are made available. The staff and management goes through all the stock. The main aim of stock taking is to know the total quantity of goods purchased (including old stock) from the last stock taking, the quantity sold, quantity remaining and profit made from all the sales.

It was observed that most supermarkets do not check profit made on a particular product, rather, they concentrate on the overall profit. It is possible that some goods must have been sold at a loss.



### 3.3 Feasibility Study.

This is concerned with investigating the problems and looking at possible alternative solutions.

The feasibility study were carried out in two supermarkets in Minna using observation and interview techniques. The operations of these supermarkets are done manually. It was observed that a high level performance are not met by the present system.

The problems are stated below:-

1. In a case of a missing price tag or price change, normal processes in the supermarket may be interrupted.
2. It is awful, staying for a long time without knowing if profit is made or not.
3. They at times run out of stock or store excessively certain items since there is no proper method of inventory control.
4. Cashiers handover some amount of money to the accounts manager at the close of business since accurate record is not kept on quantity of goods sold.

#### 3.3.1 Cost and benefit analysis.

The above mentioned weakness make it necessary that supermarket adopt a new and faster method of operation because intellectual horizon has expanded and customers need have greatly changed the processes and techniques of management of data and information. The speed and accuracy at which

information are required are hardly matched when working manually. A system that combines speed and accuracy in data handling and information, therefore becomes paramount at this stage. A computer is such a system.

A computer has many advantages;

- (a) speed in processing
- (b) large storage facility
- (c) processes large volume of transaction
- (d) accuracy of result
- (e) information can be retrieved easily.

If a computer is introduced in supermarkets. it will be of advantage in:-

- (a) identification of price in a case of a missing price tag.
- (b) control of inventory
- (c) identify if a product is available or not.
- (d) generating profit and loss statements when needed.

### Cost Analysis

#### Development Cost.

(a) 1 IBM PC (8 RAM) (with Hard disk)	- 150,000
(b) Laser jet printer	- 15,000
(c) 3.5" diskettes	- 5,000
(d) UPS	- 13,000
(e) 2 A/C (1½H/P)	- 30,000
(f) Software	- <u>10,000</u>
	<u>₦223,000</u>

Operating Cost.

(a) Stationary	-	5,000
(b) Miscellaneous expences	-	6,000
(c) System Analysis for 1 month	-	10,000
(d) Training of 3 clerks for 2 months at ₦2,500 per month	-	15,000
(e) Training of the director and 2 managers for 2 weeks at ₦5,000 per week	-	30,000
(f) Maintenance per quarter	-	<u>10,000</u>
		<u>₦76,000</u>

$$\begin{aligned}\text{Total Cost} &= \text{Development cost} + \text{Operating cost} \\ &= \text{₦223,000} + \text{₦76,000} \\ &= \underline{\underline{\text{₦299,000}}}\end{aligned}$$

Though the cost seems high but it has great benefits. A micro computer will be more appropriate for most supermarkets. The price is affordable. It does not cost much to maintain. It has a control unit, video display unit and a keyboard.

3.3.2 Testing Project Feasibility.

In testing project feasibility the following will be undertaken.

- (a) Operational feasibility
- (b) Technical feasibility
- (c) Economical feasibility.

## 1. Operational feasibility.

This is concerned with the workability of the proposed system when developed. Some factors need to be considered when developing the system.

(a) It should be error free.

The proposed system should be error free. This favours the computer because the software should be developed in such a way that it will generate error messages and give room for correction of such errors.

(b) It should be easy to operate.

The proposed system should be easy to operate in order to enhance operations of the supermarket. It is not good for a system to be complex because others coming behind the "real operator" may not know how to operate it. It must be flexible so that it can be used at any point in time.

## 2. Technical feasibility.

This test seeks to clarify if the proposed system can be done with current equipment, existing software and available personnel. Computers are readily available in the market and a software will be developed to enhance the operation of supermarket using a dbaseIV management system. There will not be any need of employing new staff as the old ones will undergo a little training to enable them operate the system effectively.

### 3. Economic feasibility

This is used to access cost of implementing a proposed project vis-a-vis the benefit derived in implementing the project. Microcomputers are affordable and much is not needed for maintenance. When the new system is implemented, it will enhance speed in operation and there will be accurate record on daily sales of the supermarket.

#### 3.4 Requirement specification.

This activity describes the features of the new system . The following requirements are intended to improve supermarket operation.

##### (a) **speed in processing**

Computers processes transactions faster than manual method. Output of transactions are generated instantly.

##### (b) **information can be retrieved easily**

Information stored in the computer can easily be retrieved. The information may be on inventory level, daily account statement etc.

##### (c) **accuracy in result.**

Computers are known to be accurate in processing of data, when wrong data is entered into the computer, it is followed by an error message.

3.5 Elements of design.

These are elements that need to be considered in system design (a) input (b) output (c) file (d) storage.

(a) Input.

This is influenced by the needs of output. The input is designed to be error free and the processes of inputing simplified.

The new system will be designed to have two types of input. The first input is required when items are to be received into the store.

This requires information such as the invoice no, date of delivery, types of items, quantity of items. The input form for this purpose would be as follows:

INVOICE/DELIVERY NOTE		
INVOICE NO		DATE
S/NO	ITEM DESCRIPTION	QUANTITY

The second input does not need a form. This input is the sales input which reflect the items purchased by a customer.

(b) Output

This is what is required from the system. The output

required in this particular system are as follows:-

- (i) prices of item purchased and the total amount of each transactions.
- (ii) summary of daily sales
- (iii) information on quantity of items in stock
- (iv) date of various transactions.

This output maybe presented in graphical form, tabular form or in a narrative form. It maybe printed out or viewed on the screen. If it is to be printed, the number of printed copies should be put into consideration for security purposes.

(c) File

A file is a collection of items of data organized into records in such a way that specific items of data or records can be retrieved and accommodated in main storage when required for processing while records is a group of related facts. Records of the same type are grouped into a file.

However, files can be examined with regards to their roles within the overall data processing activity and can be classified as master file, transaction file and report file.

Specifically, the proposed system is designed to use four database file namely:-

CODE.DBF, DSALES.DBF, TSALES.DBF, DELIVERY.DBF.

The description and structure of each of these files are discussed below.

1. CODE.DBF:- This contains the item codes in the supermarket and their descriptions. It also contains information such as the cost price, selling price and the balance of stock of each item available in the supermarket.

CODE.DBF

Field	Field Name	Type	Width	Dec	Index
1	CODE	Character	7		N
2	DESC	Character	30		N
3	CP	Numeric	10	2	N
4	SP	Numeric	10	2	N
5	Qty	Numeric	10		N

DSALES.DBF :- This contains daily transaction on sales in the supermarket. Information such as details of item, price, Quality of sales made in a day are stored in this file. This implies that at the beginning of the day, the file is made empty to prepare it for the day's activities.

Field	Field Name	Type	Width	Dec	Index
1	date	date	8		N
2	Sales No	Numeric	6		N
3	CODE	Character	7		N
4	DESC	Character	30		N
5	Qty	Numeric	5		N
6	price	Numeric	9	2	N
7	Amount	Numeric	11	2	N

**TSALES.DBF** :- A file that contains details of sales for a particular period. It is the file where the details of daily sales are being copied into on daily basis in order to prepare the daily file for the day task.

Field	Field Name	Type	Width	Dec	Index
1	date	date	8		N
2	Sales No	Numeric	6		N
3	CODE	Character	7		N
4	DESC	Character	30		N
5	Qty	Numeric	5		N
6	price	Numeric	9	2	N
7	Amount	Numeric	11	2	N

**DELIVERY.DBF** :- This file contains details of all the stock items supplied to the supermarket. It contains information such as the date of delivery, invoice number, the codes and quantity of various items supplied and their respective expiry date.

Field	Field Name	Type	Width	Dec	Index
1	date	date	8		N
2	Invno	Character	7		N
3	CODE	Character	7		N
4	Qty	Numeric	6		N
5	Exdate	Date	8		N

(d) Storage:-

This pertains to a device into which data can be entered, in which they can be held and from which they can be retrieved at a later time. The storage system are divided into two classes;

(i) Primary storage

(ii) Secondary storage.

Both primary and secondary storage system will be required in this system.

## **CHAPTER FOUR**

### **SOFTWARE DEVELOPMENT, IMPLEMENTATION AND DOCUMENTATION**

#### **4.1 INTRODUCTION**

Software are basically programs. Without the software, the hardware will not be put into effective use. It has been sometimes said that computer without a program is an "electronic idiot" because it can do nothing constructive or profitable. Furthermore, the software is also implemented. Implementation includes all those activities that take place to convert from the old system to the new. It maybe a major modification to an existing system. It involves

File conversion

Installation

Post implementation Review

#### **4.2 Choice of language**

The language used in programming is Database Management System IV. A Database management System (DBMS) is a software that constructs, expands and maintain the data contained in database. It provides the interface between the user and the data in such a way that it enables the user to record, organize, select, report on and otherwise manage data contained in the database. A database can be defined as a mechanized shared and centrally controlled collection of data used in an organization. It is any collection of useful

information organized in a systematic and consistent manner. A database can also be regarded as an organized databank where data are stored.

#### 4.21 Features of the chosen language

Dbase IV was designed by Ashton-Tate. It is an advanced version of Dbase, that provides a full relational database to users. It has a control centre from where one can design database, manipulate, edit records and files and generate reports.

In the dbase design screen, the system presents a blank structure, waiting to be filled in with data field names, Field types, Field width, and information about decimal places (where appropriate) and indexing.

In creating a file structure, the field name is typed in, the system automatically capitalizes the name. It does not matter whether the names of the field are in upper or lower case when typed in.

The field type is made up of character, Numeric, Date, Logic and memo fields.

In designing the field width, it is important to have a good understanding of the nature of the data that will be used. Care is taken not to make a field wider than necessary.

The Dec. column tells the system how many decimal places are to be used by the Numeric data, while indexing is a method used by Dbase IV to allow the user to easily view or retrieve data in a particular order. When a field is indexed, the system sets pointers to each file based on its position in an index order.

#### 4.3 Hardware Requirement.

Hardware are the physical components and devices which make up the computer system.

Computers have different sizes ranging from handheld devices to some that are several feet in height and diameter. They can be divided into four categories in terms of size; supercomputers, mainframes, minicomputers and microcomputers. These categories of computer differs in price, amount of memory speed and processing capabilities.

The proposed system is designed to run on IBM PC or its compactible. Specifically, the computer configuration required is listed as follows:-

- (a) processor of 486 motherboard and about 100 MHZ speed
- (b) Random Access Memory (RAM) of about 8MB speed.
- (c) Hard disk of about 850MB capacity
- (d) 3.5" High Density floppy Disk Drive.
- (e) A dot Matrix printer with the capability of printing 1,200 characters per second.
- (f) A UPS of about 200KVA

However, the configuration listed above would meet up with the future changes in the organization in terms of expansion.

#### 4.4 Software Requirement.

Software enables the hardware to be put into effective use. They are basically programs. A program is a set or sequence of instructions which informs a computer of the steps required for achieving a defined task.

The software required in this project is written in DbaseIV using modular programming technique. This involves designing database management program around several small subprograms. This technique have the advantage of being able to reduce the complexity of a problem. This is because modules are generally small and easy to create.

The modular programming was also integrated using a menu-drive structure, since each module performs a specific task. The menu design program will then be used to activate each of the program modules based on the choice entered.

The new system consist of six options in the main menu as shown in fig 1(see appendix). The options are stock Receipt, Daily sales, Enquiry, Report generation, item code update and quit.

1. Stock Receipt : This is the option that enables one to update the system when a delivery is made. It is also used to modify or delete the details of a delivery. Once this option is selected, a submenu appears as shown in fig 2 (see appendix).

A. ITEM ENTRY :- This displays a screen for details of items supplied to be entered into the system. This is represented by fig.3 (See appendix)

B. ITEM VIEWING :- This is an option that display the details of some group of items supplied. The screen format of this is shown in fig 4 (see appendix).

C. ITEM MODIFICATION :- This, when selected, gives room to modify the detail of items already entered as the need arises. The formats of this is shown in fig 5.

D. ITEM DELETION :- This is used to delete items already entered. The screen format is shown in fig 6.

E. QUIT :- This takes one out of stock Receipt menu.

2. Daily Sales : This option enables one to perform the day to day activities such as entering sales detail as well as modifying, viewing and debugging sales details. The screen

format are shown in figures 8-11. (see appendix)

3. Enquiry:- This option allow one to know the quantity of stock remaining. It has a submenu which is represented by fig 12. The individual stock position as shown in the submenu displays the quantity remaining for a single item while the general stock position shows the quantity remaining for all the products. The screen format for each of these are contained in figures 13 and 14 respectively. (see appendix)

4. Report Generation:- This contains the list of reports that need to be generated by the new system. This is shown in fig 15. The Daily sales report gives information on details of sales made in a day and the amount realized from sales. While the weekly profit and loss statement is a statement that reflects the amount of profit or loss made on weekly basis.

5. Item code Update:- This menu enables one to update the code of items available in the supermarket. The submenu is displayed in fig 16 (see appendix). In this submenu, one can add a new code, view the code of existing item and delete a particular item code. Each of these are represented in figures 17-20.

6. Quit:- This menu takes one to the Dot prompt.

#### 4.5 Starting the System

As stated earlier, the system is developed using Dbase IV. Therefore, for the system to be executed, it requires the installation of DbaseIV system files into the computer. Once this is done, the new system can then be invoked.

Specifically, the required steps for starting the system are as follows:-

- (a) Invoke Dbase IV which will take you to the control centre
- (b) Exit from the control center to the dot prompt.
- (c) At dot prompt type DO STOCK and press the ENTER key.
- (d) At this point, the MAIN MENU will appear on the screen from which the information in the documentation can be followed for onward processing.

#### 4.6 Testing of computer program & debugging

After developing the software, it was tested using data similar to the real data for which it has been developed for. The output was carefully watched to check against mistakes. The mistakes that were noted in the output were corrected in the program. Debugging process involves identifying the mistakes and correcting them.

#### 4.7 Installation

This involves both the hardware and the software. The supermarket in which the computer will be installed must have regular power supply. In case of power failure, a generator should be used. The system requires a stabilizer to regulate the power voltage. The supermarket is to be cleaned regularly and a cooling system such as air conditioner is required to cool the system.

Furthermore, the software will be in a floppy diskette of 3.5 inches and should be copied into the hard disk.

#### 4.8 Change over procedure

There are three methods in the change over procedure.

##### (a) Parallel Change over

In this method the old system and the new system are run con-currently. Their output are being compared and reason for differences resolved, until the new system has proved satisfactory.

##### (b) Direct or one for one change over.

The old system is discontinued and the new system is used immediately.

# CHAPTER FIVE

## SUMMARY, RECOMMENDATION & CONCLUSION

### 5.1 SUMMARY

The current system of operating the supermarket was studied and ways of improvement were considered. A software was developed and steps were taken in the development and implementation of the new system.

The first chapter dealt with the introduction. The aim of the study is to;

- (a) Computerize sales transaction in supermarkets thereby checking dishonesty among the sales personnel.
- (b) Generate profit and loss statement.
- (c) Generate profit information on any stock.
- (d) Control inventory in order to avoid out-of stock situation.
- (e) Generate an effective way of marking goods.

Chapter two dealt on the literature review. From the literature review it was discovered that computers are used in various ways in supermarkets. These include;

- (a) The use of computers with items mark with "Kimball".
- (b) The use of computer with bar coding reading device.
- (c) Products labelled with optical scanner code pass over an electronic scanner that records the transactions.
- (d) The use of computer with keyboard coding device.

It was discovered that the use of computer with keyboard coding device is more suitable for Nigeria since we are still developing technologically.

Chapter three was on System Analysis and Design. The facts finding technique used in Analysis were interview and observation. The investigations were based on the operation of supermarkets. The operations are stated below.

- (a) Customers selecting items.
- (b) Paying at cashpoints.
- (c) Rendering of daily account by cashier.
- (d) Purchase of new items by the purchasing manager.
- (e) Fixing of prices on items.
- (f) Stock taking.

The operations of supermarkets as stated above are presently being done manually. It was observed that a high level performance are not met by the present system.

In designing a new system, the areas of the system that need design were examined. These elements are;

- (a) Input
- (b) Output
- (c) File
- (d) Storage

Chapter four was on software development and implementation. Software are basically programs. They enables the hardware to be put into effective use. The programs were written in modules. The modular programming was also integrated using a menu driven structure, since each module performs a specific task.

The modules are as follows:

- (a) Stock Receipt
- (b) Daily sales
- (c) Enquiry
- (d) Report generation
- (e) Item code update
- (f) Quit

These programs were tested and debugged. Other areas of implementation that were discussed are:-

- (a) Starting the system
- (b) Installation
- (c) Change over procedure
- (d) Post Implementation Review
- (e) Maintenance
- (f) Training of the personnel

## 5.2 RECOMMENDATION

It is recommended that the new system be implemented as this will bring lots of advantages to the supermarkets.

These advantages include:-

- (a) Speed in processing
- (b) Large storage facility
- (c) Process large volume of transaction
- (d) Accuracy of result
- (e) Information can be retrieved easily

The advantages of computer to the supermarket cannot be over-emphasized.

It should also be noted that the use of Kimball, barcode or products labelled with optical scanner code are more faster and more effective. With technological advancement in Nigeria, supermarkets may soon use these devices like in developed countries. The keyboard coding system is recommended for use in Nigerian supermarkets, since we are still developing technologically.

### 5.3 CONCLUSION

From the study, it was discovered that the manual method of operating the supermarket is slow and cumbersome, hence, a change is necessary. The use of computer has been considered to eliminate these problems. The keyboard coding is most feasible both economically, technically and financially, since Nigeria is still developing technologically. This will eliminate all the problems noted in the feasibility study.

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## APPENDIX

```
STOCK.PRG
set talk off
set date brit
set stat off
set scor off
set safe off
set dele on
do whil .t.
  clea
  @ 0,10 to 23,69 doub
  @ 1,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'
  @ 2,23 to 2,55 doub
  @ 3,29 to 5,49 doub
  @ 4,31 say 'MINNA SUPERMARKET'
  @ 8,22 to 8,57
  @ 7,35 say 'MAIN MENU'
  @ 6,21 to 22,58
  @ 20,22 to 20,57
  @ 9,25 say 'A ----- STOCK RECEIPT'
  @ 11,25 say 'B ----- DAILY SALES'
  @ 13,25 say 'C ----- ENQUIRY'
  @ 15,25 say 'D ----- REPORT GENERATION'
  @ 17,25 say 'E ----- ITEM CODE UPDATE'
  @ 19,25 say 'Q ----- QUIT'
  @ 21,30 say 'PICK YOUR CHOICE:'
do whil .t.
  resp=' '
  @ 21,48 get resp pict '!'
  read
  if resp $ 'ABCDEQ'
    exit
  endi
endd
do case
  case resp='A'
    do stockr
  case resp='B'
    do sales
  case resp='C'
    do enq
  case resp='D'
```

```
do rep
case resp='E'
do code
othe
exit
endc
endd
clea
retu
```

#### STOCKR.PRG

```
do while .t.
clea
@ 1,10 to 23,69 doub
@ 2,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'
@ 3,23 to 3,55 doub
@ 4,29 to 6,49 doub
@ 5,31 say 'MINNA SUPERMARKET'
@ 9,22 to 9,57
@ 8,31 say 'STOCK RECEIPT MENU'
@ 7,21 to 22,58
@ 19,22 to 19,57
@ 10,25 say 'A ----- ITEM ENTRY'
@ 12,25 say 'B ----- ITEM VIEWING'
@ 14,25 say 'C ----- ITEM MODIFICATION'
@ 16,25 say 'D ----- ITEM DELETION'
@ 18,25 say 'Q ----- QUIT'
@ 21,30 say 'PICK YOUR CHOICE:'
do while .t.
resp=' '
@ 21,48 get resp pict '!'
read
if resp $ 'ABCDQ'
exit
endi
endd
do case
case resp='A'
do nitem
case resp='B'
do vitem
case resp='C'
```

```

do mitem
case resp='D'
do ditem
othe
exit
endc
endd
clea
retu

```

#### CODE.PRG

```

do while .t.
clea
@ 1,10 to 23,69 doub
@ 2,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'
@ 3,23 to 3,55 doub
@ 4,29 to 6,49 doub
@ 5,31 say 'MINNA SUPERMARKET'
@ 9,22 to 9,57
@ 8,29 say 'ITEM CODE UPDATE MENU'
@ 7,21 to 22,58
@ 19,22 to 19,57
@ 10,25 say 'A ----- NEW CODE ENTRY'
@ 12,25 say 'B ----- VIEW CODE ENTRY'
@ 14,25 say 'C ----- CHANGE CODE ENTRY'
@ 16,25 say 'D ----- DELETE CODE ENTRY'
@ 18,25 say 'Q ----- QUIT'
@ 21,30 say 'PICK YOUR CHOICE:'
do while .t.
resp=' '
@ 21,48 get resp pict '!'
read
if resp $ 'ABCDQ'
exit
endi
endd
do case
case resp='A'
do ncode
case resp='B'
do vcode
case resp='C'

```

```

do ccode
case resp='D'
do dcode
othe
exit
endc
endd
clea
retu

```

#### CCODE.PRG

```

use code
do while .t.
clea
@ 2,11 to 22,68 doub
@ 3,31 say 'MINNA SUPERMARKET'
@ 4,12 to 4,67 doub
@ 6,27 to 8,52 doub
@ 7,29 say 'CHANGE CODE ENTRY FORM'
mcode=spac(7)
@ 10,14 say 'ITEM CODE: (OR "'
@ 10,30 say chr(27)+chr(196)+chr(217) +'" KEY TO EXIT):'
@ 10,50 get mcode pict '@!'
read
if mcode=spac(7)
exit
endi
go top
loca for code=mcode
if .not. found()
@ 18,21 to 20,58 doub
@ 19,23 say 'INVALID ITEM CODE - Press any key '
set cons off
wait
set cons on
@ 18,19 clea to 20,60
loop
endi
mdesc=desc
mcp=cp
msp=sp
@ 12,14 say 'DESCRIPTION OF ITEM:' get mdesc pict '@!'
@ 14,14 say 'COST PRICE OF ITEM:' get mcp pict '9,999,999.99'

```

```

@ 16,14 say 'SELLING PRICE OF ITEM:' get msp pict '9,999,999.99'
read
@ 18,26 to 20,52 doub
@ 19,28 say 'TO UPDATE FILE (Y/N):'
do while .t.
  resp=' '
  @ 19,50 get resp pict '!'
  read
  if resp $ 'YN'
    exit
  endi
endd
if resp='Y'
  appe blan
  repl desc with mdesc,cp with mcp,sp with msp
  endi
endd
use
clea
retu

```

#### NCODE.PRG

```

use code
do while .t.
  clea
  @ 2,11 to 22,68 doub
  @ 3,31 say 'MINNA SUPERMARKET'
  @ 4,12 to 4,67 doub
  @ 6,28 to 8,50 doub
  @ 7,30 say 'NEW CODE ENTRY FORM'
  mcode=spac(7)
  @ 10,14 say 'ITEM CODE: (OR "'
  @ 10,30 say chr(27)+chr(196)+chr(217) +'" KEY TO EXIT):'
  @ 10,50 get mcode pict '@!'
  read
  if mcode=spac(7)
    exit
  endi
  go top
  loca for code=mcode
  if found()
    @ 18,19 to 20,60 doub

```

```

@ 19,21 say 'DUPLICATING ITEM CODE - Press any key '
set cons off
wait
set cons on
@ 18,19 clea to 20,60
loop
endi
mdesc=spac(30)
stor 0 to mcp,msp
@ 12,14 say 'DESCRIPTION OF ITEM:' get mdesc pict '@!'
@ 14,14 say 'COST PRICE OF ITEM:' get mcp pict '9,999,999.99'
@ 16,14 say 'SELLING PRICE OF ITEM:' get msp pict '9,999,999.99'
read
@ 18,26 to 20,52 doub
@ 19,28 say 'TO UPDATE FILE (Y/N):'
do while .t.
  resp=' '
  @ 19,50 get resp pict '!
  read
  if resp $ 'YN'
    exit
  endi
endd
if resp='Y'
  appe blan
  repl code with mcode,desc with mdesc,cp with mcp,sp with msp,qty with 0
endi
endd
use
clea
retu

```

#### VITEM.PRG

```

use tdelv
if .not. eof()
  zap
endi
*sele a
* use delivery
*sele b
* use code
*sele c

```

```

* use tdelv
do while .t.
  clea
  minvno=spac(7)
  @ 9,14 to 11,65
  @ 10,16 say 'ENTER INVOICE NO (OR "'
  @ 10,38 say chr(27)+chr(196)+chr(217) +"' KEY TO EXIT):'
  @ 10,57 get minvno pict '@!'
  read
  if minvno=spac(7)
    exit
  endi
  use delivery
* go top
  loca for invno=minvno
  if .not. found()
    @ 17,20 to 19,58 doub
    @ 18,22 say 'INVALID INVOICE NO - Press any key '
    set cons off
    wait
    set cons on
    @ 17,18 clea to 19,61
  loop
  endi
  mdate=date
  use tdelv
  appe from delivery.dbf for invno=minvno
  sno=0
  clea
  @ 0,1 to 24,78 doub
  @ 1,29 to 3,49 doub
  @ 2,31 say 'ITEM VIEWING FORM'
  @ 3,3 say 'INVOICE NO:' get minvno
  @ 3,63 say 'DATE:' get mdate
  clea gets
  @ 4,2 to 4,77
  @ 5,3 say 'S/NO'
  @ 5,10 say 'ITEM CODE'
  @ 5,26 say 'DESCRIPTION'
  @ 5,55 say 'QUANTITY'
  @ 5,66 say 'EXPIRY DATE'
  @ 5,8 to 21,8
  @ 5,20 to 21,20

```

```

@ 5,53 to 21,53
@ 5,64 to 21,64
@ 6,2 to 6,7
@ 6,9 to 6,19
@ 6,21 to 6,52
@ 6,54 to 6,63
@ 6,65 to 6,77
@ 22,2 to 22,77
r=7
sele a
  use tdelv
sele b
  use code
sele a
go top
do while .not. eof()
  sno=sno+1
  mqty=qty
  mexdate=exdate
  mcode=code
  sele b
  go top
  loca for mcode=code
  mdesc=desc
  @ r,4 say sno pict '99'
  @ r,11 get mcode
  @ r,22 get mdesc
  @ r,56 get mqty pict '999999'
  @ r,67 get mexdate
  clea gets
  sele a
  skip
  if eof()
    @ 23,17 say 'VIEWING ITEM RECEIVED - PRESS ANY KEY TO EXIT'
    set cons off
    wait
    set cons on
    exit
  endi
  r=r+2
  if r>21
    @ 23,15 say 'VIEWING ITEM RECEIVED - PRESS ANY KEY TO CONTINUE'
    set cons off

```

```

wait
set cons on
@ 7,2 clea to 21,7
@ 7,9 clea to 21,19
@ 7,21 clea to 21,52
@ 7,54 clea to 21,63
@ 7,65 clea to 21,77
@ 23,15 clea to 23,64
r=7
endi
endd
sele a
zap
clos all
endd
clos all
clea
retu

```

#### VCODE.PRG

```

use code
do whil .t.
  clea
  @ 2,11 to 22,68 doub
  @ 3,31 say 'MINNA SUPERMARKET'
  @ 4,12 to 4,67 doub
  @ 6,28 to 8,51 doub
  @ 7,30 say 'VIEW CODE ENTRY FORM'
  mcode=spac(7)
  @ 10,14 say 'ITEM CODE: (OR "'
  @ 10,30 say chr(27)+chr(196)+chr(217) +'" KEY TO EXIT):'
  @ 10,50 get mcode pict '@!'
  read
  if mcode=spac(7)
    exit
  endi
  go top
  loca for code=mcode
  if .not. found()
    @ 18,21 to 20,58 doub
    @ 19,23 say 'INVALID ITEM CODE - PRESS ANY KEY'
    set cons off
  endi
endd

```

```

wait
set cons on
@ 18,19 clea to 20,60
loop
endi
mdesc=desc
mcp=cp
msp=sp
@ 12,14 say 'DESCRIPTION OF ITEM:' get mdesc pict '@!'
@ 14,14 say 'COST PRICE OF ITEM:' get mcp pict '9,999,999.99'
@ 16,14 say 'SELLING PRICE OF ITEM:' get msp pict '9,999,999.99'
clea gets
@ 18,21 to 20,58 doub
@ 19,23 say 'VIEWING ITEM CODE - PRESS ANY KEY'
set cons off
wait
set cons on
endd
use
clea
retu

```

#### DCODE.PRG

```

use code
do while .t.
clea
@ 2,11 to 22,68 doub
@ 3,31 say 'MINNA SUPERMARKET'
@ 4,12 to 4,67 doub
@ 6,27 to 8,52 doub
@ 7,29 say 'DELETE CODE ENTRY FORM'
mcode=spac(7)
@ 10,14 say 'ITEM CODE: (OR "'
@ 10,30 say chr(27)+chr(196)+chr(217) +"' KEY TO EXIT):'
@ 10,50 get mcode pict '@!'
read
if mcode=spac(7)
exit
endi
go top
loca for code=mcode
if .not. found()

```

```

@ 18,21 to 20,58 doub
@ 19,23 say 'INVALID ITEM CODE - PRESS ANY KEY'
set cons off
wait
set cons on
@ 18,19 clea to 20,60
loop
endi
mdesc=desc
mcp=cp
msp=sp
@ 12,14 say 'DESCRIPTION OF ITEM:' get mdesc pict '@!'
@ 14,14 say 'COST PRICE OF ITEM:' get mcp pict '9,999,999.99'
@ 16,14 say 'SELLING PRICE OF ITEM:' get msp pict '9,999,999.99'
clea gets
@ 18,24 to 20,55 doub
@ 19,26 say 'TO DELETE ITEM CODE (Y/N):'
do whil .t.
  resp=' '
  @ 19,53 get resp pict '!'
  read
  if resp $ 'YN'
    exit
  endi
endd
if resp='Y'
  dele
  pack
  @ 18,21 to 20,58
  @ 19,23 say 'RECORD IS DELETED - PRESS ANY KEY'
else
  @ 18,19 to 20,60
  @ 19,21 say 'RECORD IS NOT DELETED - PRESS ANY KEY'
endi
set cons off
wait
set cons on
endd
use
clea
retu

```

## SALES.PRG

do whil .t.

clea

@ 1,10 to 23,69 doub

@ 2,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'

@ 3,23 to 3,55 doub

@ 4,29 to 6,49 doub

@ 5,31 say 'MINNA SUPERMARKET'

@ 9,22 to 9,57

@ 8,32 say 'DAILY SALES MENU'

@ 7,21 to 22,58

@ 19,22 to 19,57

@ 10,25 say 'A ----- SALES ENTRY'

@ 12,25 say 'B ----- SALES LISTING'

@ 14,25 say 'C ----- SALES MODIFICATION'

@ 16,25 say 'D ----- SALES DELETION'

@ 18,25 say 'Q ----- QUIT'

@ 21,30 say 'PICK YOUR CHOICE:'

do whil .t.

resp=' '

@ 21,48 get resp pict '!'

read

if resp \$ 'ABCDQ'

exit

endi

endd

do case

case resp='A'

do iteme

case resp='B'

do iteml

case resp='C'

do itemm

case resp='D'

do itemd

othe

exit

endc

endd

clea

retu

```

ITEME.PRG
today=date()
use dsales
if .not. eof()
  mdate=date
  if today<>mdate
    use tsales
    appe from dsales.dbf
    use dsales
    zap
    msalesno=0
  else
    go bott
    msalesno=salesno
  endi
else
  msalesno=0
endi
use sales
if .not. eof()
  zap
endi
do while .t.
  clea
  @ 9,20 to 11,59
  @ 10,23 say "TO ENTER CUSTOMER'S SALES (Y/N):"
  do while .t.
    resp=' '
    @ 10,56 get resp pict '!'
    read
    if resp='Y' .or. resp='N'
      exit
    endi
  endd
  if resp='N'
    exit
  endi
  clea
  mtsales=0
  msalesno=msalesno+1
  @ 0,29 to 2,50 doub
  @ 1,32 say 'SALES ENTRY FORM'
  @ 3,1 say 'TOTAL SALES: #'

```

```

@ 3,15 get mtsales pict '9,999,999,999.99'
@ 3,38 say 'SALES NO:' get msalesno
@ 3,65 say 'DATE:' get today
clea gets
@ 4,0 to 4,79
@ 5,0 say 'S/NO'
@ 5,6 say 'IT.CODE'
@ 5,21 say 'DESCRIPTION'
@ 5,49 say 'PRICE'
@ 5,61 say 'QTY'
@ 5,68 say 'SALES AMOUNT'
@ 5,4 to 21,4
@ 5,14 to 21,14
@ 5,45 to 21,45
@ 5,58 to 21,58
@ 5,66 to 21,66
@ 6,0 to 6,3
@ 6,5 to 6,13
@ 6,15 to 6,44
@ 6,46 to 6,57
@ 6,59 to 6,65
@ 6,67 to 6,79
@ 22,0 to 22,79
@ 24,0 to 24,79
sno=0
r=7
do while .t.
  sno=sno+1
  mqty=0
  @ r,1 say sno pict '99'
  do while .t.
    mcode=spac(7)
    @ r,6 get mcode
    read
    use code
  * go top
  loca for mcode=code
  if .not. found()
    @ 23,23 say 'INVALID ITEM CODE - PRESS ANY KEY'
    set cons off
    wait
    set cons on
    @ 23,23 say spac(34)

```

```

    loop
    endi
    exit
endd
mdesc=desc
msp=sp
@ r,15 get mdesc
@ r,47 get msp pict '999,999.99'
clea gets
@ r,60 get mqty pict '99999'
read
mamt=mqty*msp
mtsales=mtsales+mamt
@ r,67 get mamt pict '99,999,999.99'
@ 3,15 get mtsales pict '9,999,999,999.99'
clea gets
use sales
appe blan
repl date with today,code with mcode,qty with mqty
repl amount with mamt,desc with mdesc,price with msp
repl salesno with msalesno
@ 23,29 say 'TO ENTER MORE (Y/N):'
do whil .t.
    resp=' '
    @ 23,50 get resp pict '!'
    read
    if resp $ 'YN'
        exit
    endi
endd
@ 23,29 clea to 23,50
if resp='N'
    exit
endi
r=r+2
if r>21
    @ 7,2 clea to 21,7
    @ 7,9 clea to 21,19
    @ 7,21 clea to 21,52
    @ 7,54 clea to 21,63
    @ 7,65 clea to 21,77
    r=7
endi

```

```

endd
if resp='N'
  @ 23,28 say 'TO UPDATE FILE (Y/N):'
  do while .t.
    resp=' '
    @ 23,50 get resp pict '!'
    read
    if resp $ 'YN'
      exit
    endi
  endd
endi
if resp='Y'
  use dsales
  append from sales
  use
  select a
    use sales
  select b
    use code
  select a
  do while .not. eof()
    mcode=code
    qty1=qty
    select b
    go top
    loca for mcode=code
    qty2=qty
    qty=qty2-qty1
    replace qty with qty
    select a
    skip
  endd
endi
close all
use sales
zap
endd
close all
clear
return

```

```

NITEM.PRG
use tdelv
if .not. eof()
  zap
endi
*sele a
* use delivery
*sele b
* use code
*sele c
* use tdelv
do whil .t.
  clea
  minvno=spac(7)
  mdate=ctod(' / / ')
  @ 9,14 to 11,65
  @ 10,16 say 'ENTER INVOICE NO (OR "'
  @ 10,38 say chr(27)+chr(196)+chr(217) +"' KEY TO EXIT):'
  @ 10,57 get minvno pict '@!'
  read
  if minvno=spac(7)
    exit
  endi
  use delivery
* go top
  loca for invno=minvno
  if found()
    @ 17,18 to 19,61 doub
    @ 18,20 say 'INVOICE ALREADY ENTERED - Press any key '
    set cons off
    wait
    set cons on
    @ 17,18 clea to 19,61
  loop
endi
@ 13,19 to 15,59
@ 14,21 say 'ENTER DATE OF STOCK RECEIPT:' get mdate
read
sno=0
clea
@ 0,1 to 24,78 doub
@ 1,29 to 3,50 doub
@ 2,31 say 'ITEM RECEIVED FORM'

```

```

@ 3,3 say 'INVOICE NO:' get minvno
@ 3,63 say 'DATE:' get mdate
clea gets
@ 4,2 to 4,77
@ 5,3 say 'S/NO'
@ 5,10 say 'ITEM CODE'
@ 5,26 say 'DESCRIPTION'
@ 5,55 say 'QUANTITY'
@ 5,66 say 'EXPIRY DATE'
@ 5,8 to 21,8
@ 5,20 to 21,20
@ 5,53 to 21,53
@ 5,64 to 21,64
@ 6,2 to 6,7
@ 6,9 to 6,19
@ 6,21 to 6,52
@ 6,54 to 6,63
@ 6,65 to 6,77
@ 22,2 to 22,77
r=7
do while .t.
  sno=sno+1
  mqty=0
  mexdate=ctod(' / / ')
  @ r,4 say sno pict '99'
  do while .t.
    mcode=spac(7)
    @ r,11 get mcode
    read
    use code
  * go top
  loca for mcode=code
  if .not. found()
    @ 23,23 say 'INVALID ITEM CODE - PRESS ANY KEY'
    set cons off
    wait
    set cons on
    @ 23,23 say spac(34)
    loop
  endi
  exit
endd
mdesc=desc

```

```

@ r,22 get mdesc
clea gets
@ r,56 get mqty pict '999999'
@ r,67 get mexdate
read
use tdelv
appe blan
repl invno with minvno,code with mcode,qty with mqty
repl date with mdate,exdate with mexdate
@ 23,29 say 'TO ENTER MORE (Y/N):'
do while .t.
  resp=' '
  @ 23,50 get resp pict '!'
  read
  if resp $ 'YN'
    exit
  endi
endd
@ 23,29 clea to 23,50
if resp='N'
  exit
endi
r=r+2
if r>21
  @ 7,2 clea to 21,7
  @ 7,9 clea to 21,19
  @ 7,21 clea to 21,52
  @ 7,54 clea to 21,63
  @ 7,65 clea to 21,77
  r=7
endi
endd
if resp='N'
  @ 23,28 say 'TO UPDATE FILE (Y/N):'
  do while .t.
    resp=' '
    @ 23,50 get resp pict '!'
    read
    if resp $ 'YN'
      exit
    endi
  endd
endi

```

```

if resp='Y'
  use delivery
  appe from tdelv
  use
  sele a
    use tdelv
  sele b
    use code
  sele a
  do while .not. eof()
    mcode=code
    mqty1=qty
    sele b
    go top
    loca for mcode=code
    mqty2=qty
    mqty=mqty1+mqty2
    repl qty with mqty
    sele a
    skip
  endd
endi
clos all
use tdelv
zap
endd
clos all
clea
retu

```

#### DITEM.PRG

```

use tdelv
if .not. eof()
  zap
endi
do while .t.
  clea
  minvno=spac(7)
  @ 9,14 to 11,65
  @ 10,16 say 'ENTER INVOICE NO (OR "'
  @ 10,38 say chr(27)+chr(196)+chr(217) +"' KEY TO EXIT):'
  @ 10,57 get minvno pict '@!'

```

```

read
if minvno=spac(7)
  exit
endi
use delivery
loca for invno=minvno
if .not. found()
  @ 17,20 to 19,58 doub
  @ 18,22 say 'INVALID INVOICE NO - Press any key '
  set cons off
  wait
  set cons on
  @ 17,18 clea to 19,61
  loop
endi
mdate=date
use tdelv
appe from delivery.dbf for invno=minvno
sno=0
clea
@ 0,1 to 24,78 doub
@ 1,29 to 3,50 doub
@ 2,31 say 'ITEM DELETING FORM'
@ 3,3 say 'INVOICE NO:' get minvno
@ 3,63 say 'DATE:' get mdate
clea gets
@ 4,2 to 4,77
@ 5,3 say 'S/NO'
@ 5,10 say 'ITEM CODE'
@ 5,26 say 'DESCRIPTION'
@ 5,55 say 'QUANTITY'
@ 5,66 say 'EXPIRY DATE'
@ 5,8 to 21,8
@ 5,20 to 21,20
@ 5,53 to 21,53
@ 5,64 to 21,64
@ 6,2 to 6,7
@ 6,9 to 6,19
@ 6,21 to 6,52
@ 6,54 to 6,63
@ 6,65 to 6,77
@ 22,2 to 22,77
r=7

```

```

sele a
  use tdelv
sele b
  use code
sele c
  use delivery
sele a
go top
do whil .not. eof()
  sno=sno+1
  mqty=qty
  mexdate=exdate
  mcode=code
  sele b
  go top
  loca for code=mcode
  mdesc=desc
  @ r,4 say sno pict '99'
  @ r,11 get mcode
  @ r,22 get mdesc
  @ r,56 get mqty pict '999999'
  @ r,67 get mexdate
  clea gets
  sele a
  skip
  if eof()
    @ 23,27 say 'TO DELETE RECORDS (Y/N):'
    do whil .t.
      resp=' '
      @ 23,52 get resp pict '!'
      read
      if resp $ 'YN'
        exit
      endi
    endd
  exit
endi
r=r+2
if r>21
  @ 23,27 say 'PRESS ANY KEY TO CONTINUE'
  set cons off
  wait
  set cons on

```

```

@ 7,2 clea to 21,7
@ 7,9 clea to 21,19
@ 7,21 clea to 21,52
@ 7,54 clea to 21,63
@ 7,65 clea to 21,77
@ 23,15 clea to 23,64
r=7
endi
endd
if resp='Y'
sele a
go top
do while .not. eof()
mcode=code
mqty1=qty
sele b
go top
loca for mcode=code
mqty2=qty
mqty=mqty2-mqty1
repl qty with mqty
sele c
go top
loca for minvno=invno .and. mcode=code
dele
sele a
skip
endd
sele c
pack
@ 23,22 say 'RECORDS ARE DELETED - PRESS ANY KEY'
else
@ 23,20 say 'RECORDS ARE NOT DELETED - PRESS ANY KEY'
endi
set cons off
wait
set cons on
sele a
zap
clos all
endd
clos all
clea

```

retu

MITEM.PRG

use tdelv

if .not. eof()

zap

endi

\*sele a

\* use delivery

\*sele b

\* use code

\*sele c

\* use tdelv

do while .t.

clea

minvno=spac(7)

@ 9,14 to 11,65

@ 10,16 say 'ENTER INVOICE NO (OR '''

@ 10,38 say chr(27)+chr(196)+chr(217) +' KEY TO EXIT):'

@ 10,57 get minvno pict '@!'

read

if minvno=spac(7)

exit

endi

use delivery

\* go top

loca for invno=minvno

if .not. found()

@ 17,20 to 19,58 doub

@ 18,22 say 'INVALID INVOICE NO - Press any key '

set cons off

wait

set cons on

@ 17,18 clea to 19,61

loop

endi

mdate=date

use tdelv

appe from delivery.dbf for invno=minvno

sno=0

clea

@ 0,1 to 24,78 doub

```

@ 1,27 to 3,52 doub
@ 2,29 say 'ITEM MODIFICATION FORM'
@ 3,3 say 'INVOICE NO:' get minvno
@ 3,63 say 'DATE:' get mdate
clea gets
@ 4,2 to 4,77
@ 5,3 say 'S/NO'
@ 5,10 say 'ITEM CODE'
@ 5,26 say 'DESCRIPTION'
@ 5,55 say 'QUANTITY'
@ 5,66 say 'EXPIRY DATE'
@ 5,8 to 21,8
@ 5,20 to 21,20
@ 5,53 to 21,53
@ 5,64 to 21,64
@ 6,2 to 6,7
@ 6,9 to 6,19
@ 6,21 to 6,52
@ 6,54 to 6,63
@ 6,65 to 6,77
@ 22,2 to 22,77
r=7
sele a
  use tdelv
sele b
  use code
sele a
go top
do while .not. eof()
  sno=sno+1
  mqty=qty
  mexdate=exdate
  mcode=code
  sele b
  go top
  loca for mcode=code
  mdesc=desc
  @ r,4 say sno pict '99'
  @ r,11 get mcode
  @ r,22 get mdesc
  @ r,56 get mqty pict '999999'
  @ r,67 get mexdate
clea gets

```

```
sele a
skip
r=r+2
if eof()
  @ 23,28 say 'TO UPDATE FILE (Y/N):'
  do while .t.
    resp=' '
    @ 23,50 get resp pict '!'
    read
    if resp $ 'YN'
      exit
    endi
  endd
endi
endd
sele a
zap
clos all
endd
clos all
clea
retu
```

#### ITEML.PRG

```
use dsales
mdate=date
clea
@ 0,0 to 24,79 doub
@ 1,29 to 3,50 doub
@ 2,31 say 'SALES LISTING FORM'
* @ 3,3 say 'INVOICE NO:' get minvno
@ 3,64 say 'DATE:' get mdate
clea gets
@ 4,1 to 4,78
@ 5,2 say 'SALES NO'
@ 5,19 say 'DESCRIPTION'
@ 5,46 say 'PRICE'
@ 5,58 say 'QTY'
@ 5,65 say 'SALES AMOUNT'
@ 5,11 to 21,11
@ 5,42 to 21,42
@ 5,55 to 21,55
```

```

@ 5,63 to 21,63
@ 6,1 to 6,10
@ 6,12 to 6,41
@ 6,43 to 6,54
@ 6,56 to 6,62
@ 6,64 to 6,78
@ 22,1 to 22,78
r=7
do while .not. eof()
  msalesno=salesno
  mqty=qty
  mdesc=desc
  mprice=price
  mamt=amount
  @ r,3 get msalesno pict '999999'
  @ r,12 get mdesc
  @ r,44 get mprice pict '999,999.99'
  @ r,57 get mqty pict '99999'
  @ r,65 get mamt pict '99,999,999.99'
  clea gets
  skip
  if eof()
    @ 23,19 say 'IT IS END OF FILE - PRESS ANY KEY TO EXIT'
    set cons off
    wait
    set cons on
    exit
  endi
  r=r+2
  if r>21
    @ 23,16 say 'LISTING SALES ENTRY - PRESS ANY KEY TO CONTINUE'
    set cons off
    wait
    set cons on
    @ 7,1 clea to 21,10
    @ 7,12 clea to 21,41
    @ 7,43 clea to 21,54
    @ 7,56 clea to 21,62
    @ 7,64 clea to 21,78
    @ 23,15 clea to 23,64
    r=7
  endi
endd

```

```
clos all
clea
retu
```

```
ITEMM.PRG
```

```
use sales
if .not. eof()
  zap
endi
do while .t.
  clea
  msalesno=0
  @ 9,15 to 11,64
  @ 10,17 say 'ENTER SALES NO (OR "'
  @ 10,37 say chr(27)+chr(196)+chr(217) +' KEY TO EXIT):'
  @ 10,56 get msalesno pict '999999'
  read
  if msalesno=0
    exit
  endi
  use dsales
  loca for salesno=msalesno
  if .not. found()
    @ 17,21 to 19,57 doub
    @ 18,23 say 'INVALID SALES NO - Press any key '
    set cons off
    wait
    set cons on
    @ 17,18 clea to 19,61
    loop
  endi
  mdate=date
  use sales
  appe from dsales.dbf for salesno=msalesno
  sum amount to mtsales
  go top
  sno=0
  clea
  @ 0,25 to 2,53 doub
  @ 1,28 say 'SALES MODIFICATION FORM'
  @ 3,1 say 'TOTAL SALES: #'
  @ 3,15 get mtsales pict '9,999,999,999.99'
```

```

@ 3,38 say 'SALES NO:' get msalesno
@ 3,65 say 'DATE:' get mdate
clea gets
@ 4,0 to 4,79
@ 5,0 say 'S/NO'
@ 5,6 say 'IT.CODE'
@ 5,21 say 'DESCRIPTION'
@ 5,49 say 'PRICE'
@ 5,61 say 'QTY'
@ 5,68 say 'SALES AMOUNT'
@ 5,4 to 21,4
@ 5,14 to 21,14
@ 5,45 to 21,45
@ 5,58 to 21,58
@ 5,66 to 21,66
@ 6,0 to 6,3
@ 6,5 to 6,13
@ 6,15 to 6,44
@ 6,46 to 6,57
@ 6,59 to 6,65
@ 6,67 to 6,79
@ 22,0 to 22,79
@ 24,0 to 24,79
r=7
sno=0
do while .not. eof()
  sno=sno+1
  mqty=qty
  mdesc=desc
  mcode=code
  mprice=price
  mamount=amount
  @ r,1 say sno pict '99'
  @ r,6 get mcode
  @ r,15 get mdesc
  @ r,47 get mprice pict '999,999.99'
  @ r,60 get mqty pict '99999'
  @ r,67 get mamount pict '99,999,999.99'
  clea gets
  skip
  r=r+2
enddo
sele a

```

```

use sales
sele b
  use code
sele a
sno=0
r=7
do while .not. eof()
  sno=sno+1
  mqty=qty
  mcode=code
  mamt=amount
  mamount=amount
  @ r,1 say sno pict '99'
  sele b
  do while .t.
    @ r,6 get mcode
    read
    go top
    loca for mcode=code
    if .not. found()
      @ 23,23 say 'INVALID ITEM CODE - PRESS ANY KEY'
      set cons off
      wait
      set cons on
      @ 23,23 say spac(34)
      loop
    endi
  exit
endd
mdesc=desc
msp=sp
sele a
@ r,15 get mdesc
@ r,47 get msp pict '999,999.99'
clea gets
@ r,60 get mqty pict '99999'
read
mamt=mqty*msp
mtsales=mtsales+mamt-mamount
@ r,67 get mamt pict '99,999,999.99'
@ 3,15 get mtsales pict '9,999,999,999.99'
clea gets
repl code with mcode,qty with mqty

```

```

    repl amount with mamt,desc with mdesc,price with msp
    skip
    r=r+2
endd
clos all
@ 23,28 say 'TO UPDATE FILE (Y/N):'
do while .t.
    resp=' '
    @ 23,50 get resp pict '!'
    read
    if resp $ 'YN'
        exit
    endi
endd
if resp='Y'
    use dsales
    dele all for salesno=msalesno
    pack
    appe from sales
endi
use sales
zap
use
endd
clos all
clea
retu

```

#### ITEMD.PRG

```

use sales
if .not. eof()
    zap
endi
do while .t.
    clea
    msalesno=0
    @ 9,15 to 11,64
    @ 10,17 say 'ENTER SALES NO (OR "'
    @ 10,37 say chr(27)+chr(196)+chr(217) +'" KEY TO EXIT):'
    @ 10,56 get msalesno pict '999999'
    read
    if msalesno=0

```

```

exit
endi
use dsales
loca for salesno=msalesno
if .not. found()
  @ 17,21 to 19,57 doub
  @ 18,23 say 'INVALID SALES NO - Press any key '
  set cons off
  wait
  set cons on
  @ 17,18 clea to 19,61
  loop
endi
mdate=date
use sales
appe from dsales.dbf for salesno=msalesno
sum amount to mtsales
go top
sno=0
clea
@ 0,27 to 2,51 doub
@ 1,30 say 'SALES DELETION FORM'
@ 3,1 say 'TOTAL SALES: #'
@ 3,15 get mtsales pict '9,999,999,999.99'
@ 3,38 say 'SALES NO:' get msalesno
@ 3,65 say 'DATE:' get mdate
clea gets
@ 4,0 to 4,79
@ 5,0 say 'S/NO'
@ 5,6 say 'IT.CODE'
@ 5,21 say 'DESCRIPTION'
@ 5,49 say 'PRICE'
@ 5,61 say 'QTY'
@ 5,68 say 'SALES AMOUNT'
@ 5,4 to 21,4
@ 5,14 to 21,14
@ 5,45 to 21,45
@ 5,58 to 21,58
@ 5,66 to 21,66
@ 6,0 to 6,3
@ 6,5 to 6,13
@ 6,15 to 6,44
@ 6,46 to 6,57

```

```

@ 6,59 to 6,65
@ 6,67 to 6,79
@ 22,0 to 22,79
@ 24,0 to 24,79
r=7
sno=0
do while .not. eof()
  sno=sno+1
  mqty=qty
  mdesc=desc
  mcode=code
  mprice=price
  mamount=amount
  @ r,1 say sno pict '99'
  @ r,6 get mcode
  @ r,15 get mdesc
  @ r,47 get mprice pict '999,999.99'
  @ r,60 get mqty pict '99999'
  @ r,67 get mamount pict '99,999,999.99'
  clea gets
  skip
  r=r+2
endd
@ 23,27 say 'TO DELETE RECORDS (Y/N):'
do while .t.
  resp=' '
  @ 23,52 get resp pict '!'
  read
  if resp $ 'YN'
    exit
  endi
endd
if resp='Y'
  use dsales
  dele all for salesno=msalesno
  pack
  @ 23,22 say 'RECORDS ARE DELETED - PRESS ANY KEY'
else
  @ 23,20 say 'RECORDS ARE NOT DELETED - PRESS ANY KEY'
endi
set cons off
wait
set cons on

```

```
use sales
zap
endd
clos all
clea
retu
```

```
ENQ.PRG
```

```
do whil .t.
  clea
  @ 3,10 to 21,69 doub
  @ 4,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'
  @ 5,23 to 5,55 doub
  @ 6,29 to 8,49 doub
  @ 7,31 say 'MINNA SUPERMARKET'
  @ 11,18 to 11,61
  @ 10,34 say 'ENQUIRY MENU'
  @ 9,17 to 20,62
  @ 17,18 to 17,61
  @ 12,21 say 'A ----- INDIVIDUAL STOCK POSITION'
  @ 14,21 say 'B ----- GENERAL STOCK POSITION'
  @ 16,21 say 'Q ----- QUIT'
  @ 19,30 say 'PICK YOUR CHOICE:'
  do whil .t.
    resp=' '
    @ 19,48 get resp pict '!'
    read
    if resp $ 'ABQ'
      exit
    endi
  endd
  do case
    case resp='A'
      do enq1
    case resp='B'
      do enq2
    othe
      exit
  endc
endd
clea
retu
```

ENQ1.PRG

```
use code
do while .t.
  clea
  mcode=spac(7)
  @ 5,16 to 19,62 doub
  @ 17,17 to 17,61
  @ 8,27 say 'INDIVIDUAL STOCK POSITION'
  @ 7,25 to 9,53
  @ 11,18 say 'ITEM CODE (OR "'
  @ 11,33 say chr(27)+chr(196)+chr(217) +'" KEY TO EXIT):'
  @ 11,52 get mcode
  read
  if mcode=spac(7)
    exit
  endi
  go top
  loca for code=mcode
  if .not. found()
    @ 18,21 say 'INVALID ITEM CODE NO - Press any key '
    set cons off
    wait
    set cons on
    @ 18,18 clea to 18,61
    loop
  endi
  mdesc=desc
  mqty=qty
  @ 13,18 say 'DESCRIPTION:' get mdesc
  @ 15,18 say 'BALANCE OF STOCK:' get mqty pict '9,999,999,999'
  @ 18,21 say 'VIEWING STOCK BALANCE - PRESS ANY KEY'
  set cons off
  wait
  set cons on
endd
use
clea
retu
```

REP.PRG

```
do while .t.
```

```

clea
@ 3,10 to 21,69 doub
@ 4,23 say 'COMPUTERISED STOCK CONTROL SYSTEM'
@ 5,23 to 5,55 doub
@ 6,29 to 8,49 doub
@ 7,31 say 'MINNA SUPERMARKET'
@ 11,16 to 11,63
@ 10,29 say 'REPORT GENERATION MENU'
@ 9,15 to 20,64
@ 17,16 to 17,63
@ 12,19 say 'A ----- DAILY SALES REPORT'
@ 14,19 say 'B ----- WEEKLY PROFIT & LOSS STATEMENT'
@ 16,19 say 'Q ----- QUIT'
@ 19,30 say 'PICK YOUR CHOICE:'
do whil .t.
  resp=' '
  @ 19,48 get resp pict '!'
  read
  if resp $ 'ABQ'
    exit
  endi
endd
do case
  case resp='A'
    do rep1
  case resp='B'
    do rep2
  othe
    exit
endc
endd
clea
retu

```

#### ENQ2.PRG

```

use code
clea
@ 0,7 to 24,72 doub
@ 1,27 to 3,52 doub
@ 2,29 say 'GENERAL STOCK POSITION'
@ 4,8 to 4,71
@ 5,9 say 'S/NO'

```

```

@ 5,16 say 'ITEM CODE'
@ 5,32 say 'DESCRIPTION'
@ 5,62 say 'QUANTITY'
@ 5,14 to 21,14
@ 5,26 to 21,26
@ 5,59 to 21,59
@ 6,8 to 6,13
@ 6,15 to 6,25
@ 6,27 to 6,58
@ 6,60 to 6,71
@ 22,8 to 22,71
r=7
sno=0
do while .not. eof()
  sno=sno+1
  mcode=code
  mqty=qty
  mdesc=desc
  @ r,9 get sno pict '9999'
  @ r,16 get mcode
  @ r,28 get mdesc
  @ r,61 get mqty pict '9999999999'
  clea gets
  skip
if eof()
  @ 23,19 say 'IT IS END OF FILE - PRESS ANY KEY TO EXIT'
  set cons off
  wait
  set cons on
  exit
endi
r=r+2
if r>21
  @ 23,16 say 'LISTING SALES ENTRY - PRESS ANY KEY TO CONTINUE'
  set cons off
  wait
  set cons on
  @ 7,8 clea to 21,13
  @ 7,15 clea to 21,25
  @ 7,27 clea to 21,58
  @ 7,60 clea to 21,71
  r=7
endi

```

```
endd
clos all
clea
retu
```

### REP1.PRG

```
use dsales
mdate=date
sort on code to temp.dbf
use temp
clea
@ 1,31 say 'MINNA SUPERMARKET'
@ 2,31 say repl('=',17)
@ 4,24 say 'DAILY SALES REPORT FOR '+dtoc(mdate)
@ 5,24 say repl('=',31)
@ 6,0 say repl('-',80)
@ 7,0 say '| S/NO | DESCRIPTION'
@ 7,40 say '| PRICE'
@ 7,53 say '|'
@ 7,57 say 'QTY'
@ 7,63 say '| SALES AMOUNT |'
@ 8,0 say '|-----|'
@ 8,8 say repl('-',32)+'|'
@ 8,41 say repl('-',12)+'|'
@ 8,54 say repl('-',9)+'|'
@ 8,64 say repl('-',15)+'|'
sno=0
gtot=0
totamt=0
totqty=0
r=8
do while .not. eof()
  mcode=code
  mqty=qty
  mdesc=desc
  mprice=price
  mamt=amount
  totamt=totamt+mamt
  totqty=totqty+mqty
  skip
  if mcode=code
    loop
```

```

endi
sno=sno+1
r=r+1
@ r,0 say '|'
@ r,2 say sno pict '9999'
@ r,7 say '|'
@ r,9 say mdesc
@ r,40 say '|'
@ r,42 say mprice pict '999,999.99'
@ r,53 say '|'
@ r,55 say totqty pict '999,999'
@ r,63 say '|'
@ r,65 say totamt pict '99,999,999.99'
@ r,79 say '|'
gtot=gtot+totamt
totamt=0
totqty=0
if eof()
  exit
endi
r=r+1
@ r,0 say '|'
@ r,7 say '|'
@ r,40 say '|'
@ r,53 say '|'
@ r,63 say '|'
@ r,79 say '|'
endd
r=r+1
@ r,0 say '|+repl('-',78)+'|'
r=r+1
@ r,0 say '|'
@ r,35 say 'GRAND - TOTAL : -'
@ r,65 say gtot pict '99,999,999.99'
@ r,79 say '|'
r=r+1
@ r,0 say repl('=',80)
wait
clos all
clea
retu

```

→

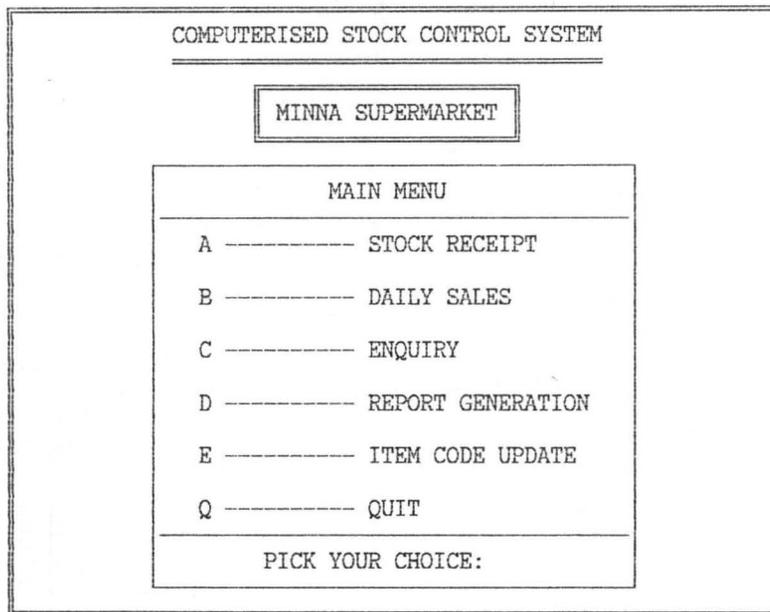


FIG. 1

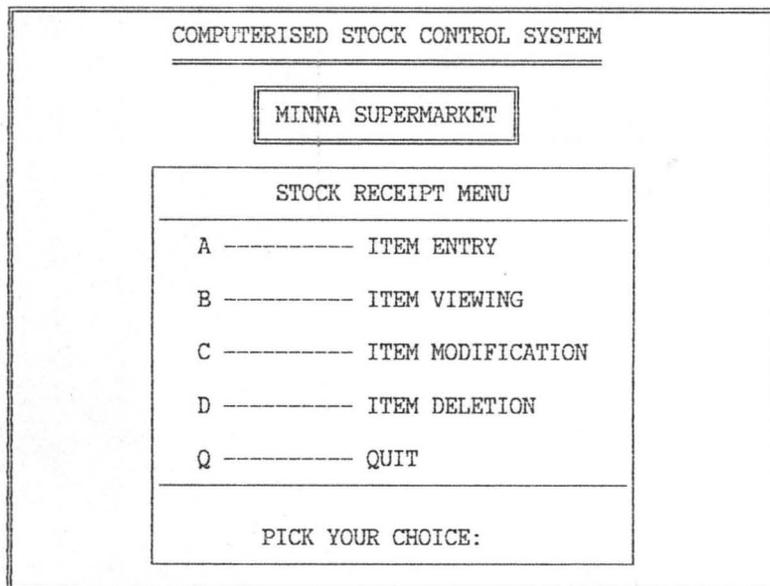


FIG. 2

		ITEM RECEIVED FORM			
INVOICE NO: 4224				DATE: 20/01/97	
S/NO	ITEM CODE	DESCRIPTION	QUANTITY	EXPIRY DATE	
1	12345	BOURNVITA - 500 MG	100	01/02/99	
2	98765	CLOSE UP - LARGE SIZE	250	12/10/98	
3	34567	CUSTARD POWDER - 500 MG	500	20/01/98	
4	44444	PHILIP IRON	100	/ /	
TO ENTER MORE (Y/N):					

FIG. 3

		ITEM VIEWING FORM			
INVOICE NO: 4224				DATE: 20/01/97	
S/NO	ITEM CODE	DESCRIPTION	QUANTITY	EXPIRY DATE	
1	12345	BOURNVITA - 500 MG	100	01/02/99	
2	98765	CLOSE UP - LARGE SIZE	250	12/10/98	
3	34567	CUSTARD POWDER - 500 MG	500	20/01/98	
4	44444	PHILIP IRON	100	/ /	
VIEWING ITEM RECEIVED - PRESS ANY KEY TO EXIT					

FIG. 4

ITEM MODIFICATION FORM				
INVOICE NO: 4224			DATE: 20/01/97	
S/NO	ITEM CODE	DESCRIPTION	QUANTITY	EXPIRY DATE
1	12345	BOURNVITA - 500 MG	100	01/02/99
2	98765	CLOSE UP - LARGE SIZE	250	12/10/98
3	34567	CUSTARD POWDER - 500 MG	500	20/01/98
4	44444	PHILIP IRON	100	/ /

TO UPDATE FILE (Y/N):

FIG. 5

ITEM DELETING FORM				
INVOICE NO: 4224			DATE: 20/01/97	
S/NO	ITEM CODE	DESCRIPTION	QUANTITY	EXPIRY DATE
1	12345	BOURNVITA - 500 MG	100	01/02/99
2	98765	CLOSE UP - LARGE SIZE	250	12/10/98
3	34567	CUSTARD POWDER - 500 MG	500	20/01/98
4	44444	PHILIP IRON	100	/ /

TO DELETE RECORDS (Y/N):

FIG. 6

COMPUTERISED STOCK CONTROL SYSTEM

---

MINNA SUPERMARKET

---

DAILY SALES MENU

---

A ----- SALES ENTRY

B ----- SALES LISTING

C ----- SALES MODIFICATION

D ----- SALES DELETION

Q ----- QUIT

---

PICK YOUR CHOICE:

FIG. 7

SALES ENTRY FORM

TOTAL SALES: #            6,220.00            SALES NO:            5            DATE: 21/01/97

S/NO	IT. CODE	DESCRIPTION	PRICE	QTY	SALES AMOUNT
1	44444	PHILIP IRON	1,750.00	1	1,750.00
2	23456	MACLEAN - FAMILY SIZE	135.00	2	270.00
3	12345	BOURNVITA - 500 MG	250.00	6	1,500.00
4	34567	CUSTARD POWDER - 500 MG	450.00	6	2,700.00

---

TO ENTER MORE (Y/N):

---

FIG. 8

SALES LISTING FORM				
				DATE: 21/01/97
SALES NO	DESCRIPTION	PRICE	QTY	SALES AMOUNT
2	CUSTARD POWDER - 500 MG	450.00	2	900.00
3	BOURNVITA - 500 MG	250.00	5	1,250.00
3	CLOSE UP - LARGE SIZE	155.00	1	155.00
4	CUSTARD POWDER - 500 MG	450.00	5	2,250.00
4	MACLEAN - FAMILY SIZE	135.00	10	1,350.00
4	CLOSE UP - LARGE SIZE	155.00	12	1,860.00
4	BOURNVITA - 500 MG	250.00	10	2,500.00
4	MACLEAN - FAMILY SIZE	135.00	2	270.00
LISTING SALES ENTRY - PRESS ANY KEY TO CONTINUE				

FIG. 9

SALES MODIFICATION FORM					
TOTAL SALES: #		8,230.00	SALES NO:	4	DATE: 21/01/97
S/NO	IT. CODE	DESCRIPTION	PRICE	QTY	SALES AMOUNT
1	34567	CUSTARD POWDER - 500 MG	450.00	5	2,250.00
2	23456	MACLEAN - FAMILY SIZE	135.00	10	1,350.00
3	98765	CLOSE UP - LARGE SIZE	155.00	12	1,860.00
4	12345	BOURNVITA - 500 MG	250.00	10	2,500.00
5	23456	MACLEAN - FAMILY SIZE	135.00	2	270.00
TO UPDATE FILE (Y/N):					

FIG. 10

SALES DELETION FORM

TOTAL SALES: #            8,230.00            SALES NO:            4            DATE: 21/01/97

S/NO	IT.CODE	DESCRIPTION	PRICE	QTY	SALES AMOUNT
1	34567	CUSTARD POWDER - 500 MG	450.00	5	2,250.00
2	23456	MACLEAN - FAMILY SIZE	135.00	10	1,350.00
3	98765	CLOSE UP - LARGE SIZE	155.00	12	1,860.00
4	12345	BOURNVITA - 500 MG	250.00	10	2,500.00
5	23456	MACLEAN - FAMILY SIZE	135.00	2	270.00

TO DELETE RECORDS (Y/N):

FIG. 11

COMPUTERISED STOCK CONTROL SYSTEM

---

MINNA SUPERMARKET

ENQUIRY MENU

---

A ----- INDIVIDUAL STOCK POSITION

B ----- GENERAL STOCK POSITION

Q ----- QUIT

---

PICK YOUR CHOICE:

FIG. 12

INDIVIDUAL STOCK POSITION	
ITEM CODE (OR " KEY TO EXIT):	34567
DESCRIPTION:	CUSTARD POWDER - 500 MG
BALANCE OF STOCK:	516
VIEWING STOCK BALANCE - PRESS ANY KEY	

FIG. 13

GENERAL STOCK POSITION			
S/NO	ITEM CODE	DESCRIPTION	QUANTITY
1	12345	BOURNVITA - 500 MG	425
2	98765	CLOSE UP - LARGE SIZE	350
3	23456	MACLEAN - FAMILY SIZE	189
4	34567	CUSTARD POWDER - 500 MG	516
5	44444	PHILIP IRON	99
IT IS END OF FILE - PRESS ANY KEY TO EXIT			

FIG. 14

COMPUTERISED STOCK CONTROL SYSTEM

---

MINNA SUPERMARKET

REPORT GENERATION MENU

---

A ----- DAILY SALES REPORT

B ----- WEEKLY PROFIT & LOSS STATEMENT

Q ----- QUIT

---

PICK YOUR CHOICE:

FIG. 15

COMPUTERISED STOCK CONTROL SYSTEM

---

MINNA SUPERMARKET

ITEM CODE UPDATE MENU

---

A ----- NEW CODE ENTRY

B ----- VIEW CODE ENTRY

C ----- CHANGE CODE ENTRY

D ----- DELETE CODE ENTRY

Q ----- QUIT

---

PICK YOUR CHOICE:

FIG. 16

MINNA SUPERMARKET

---

NEW CODE ENTRY FORM

ITEM CODE: (OR " KEY TO EXIT): 54321

DESCRIPTION OF ITEM: EVAPORATED PEAK MILK

COST PRICE OF ITEM: 25.00

SELLING PRICE OF ITEM: 35.00

TO UPDATE FILE (Y/N):

FIG. 17

MINNA SUPERMARKET

---

VIEW CODE ENTRY FORM

ITEM CODE: (OR " KEY TO EXIT): 54321

DESCRIPTION OF ITEM: EVAPORATED PEAK MILK

COST PRICE OF ITEM: 25.00

SELLING PRICE OF ITEM: 35.00

VIEWING ITEM CODE - PRESS ANY KEY

FIG. 18

MINNA SUPERMARKET

CHANGE CODE ENTRY FORM

ITEM CODE: (OR " KEY TO EXIT): 54321

DESCRIPTION OF ITEM: EVAPORATED PEAK MILK

COST PRICE OF ITEM: 25.00

SELLING PRICE OF ITEM: 35.00

TO UPDATE FILE (Y/N):

FIG. 19

MINNA SUPERMARKET

DELETE CODE ENTRY FORM

ITEM CODE: (OR " KEY TO EXIT): 54321

DESCRIPTION OF ITEM: EVAPORATED PEAK MILK

COST PRICE OF ITEM: 25.00

SELLING PRICE OF ITEM: 35.00

TO DELETE ITEM CODE (Y/N):

FIG. 20