

**PERSONNEL MANAGEMENT INFORMATION  
SYSTEM**

**A CASE STUDY OF**

**NIGERIAN POLICE FORCE [ZONE 7]**

***BY***

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# APPROVAL SHEET

This project has been examined and found acceptable in partial fulfilment of the requirement for the Post-Graduate Diploma in Computer Science of the Federal University of Technology, Minna.

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# DEDICATION

This work is dedicated to my children as a sort of an encouragement to pursue their academic goal diligently.

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This is largely as a result of a large number of employees as well as handling of staff records by unqualified staff. Most of the time, the confidentiality of data is not achieved. This then necessitates the need to computerise the management of personnel records of the Nigeria Police Force.

Given the above requirement, this study aims at analysing a computerised procedures which is intended to replace the present manual system which is fully characterised with paper work.

# CHAPTER ONE

1.0

## GENERAL PREAMBLES

1.1

### INTRODUCTION

The application of computer is cutting across every aspects of human endeavour. Infact, the computer technology has come to stay with its profound impact on every aspect of our lives. This is the reason why computer literacy is almost becoming the prime requirement when one is competing for any skilled job today.

However, the forerunner set of computers were restricted to scientific applications and this was not unconnected with the fact that the inventors of the systems were scientist. The first commercial computers were used predominantly for business related applications such as payroll, billing, accounts receivable and payable and other business operations. Given this basis, other departments like personnel, marketing, operations, and so on, realised the computer as an indispensible tool and was embraced.

The versatility of computer then becomes a basis for introducing computer department in most organisations to take care of the computer needs of other departments within the organisation. Computer usage is required because of the speed and accurate processing of data, ease in retrieval and file maintenance, security of informations, savings in clerical labour costs, and so on.

These benefits could be an area of special interest to the personnel department of any organisation. This is because the efficiency with which any organisation can

perform will depend, to a large extent, upon how effectively its personnel can be managed and utilised. Effective personnel management requires the development of a process which will aid the proper and required decision and policies to be formulated on the employees. The basis for proper formulation of these policies involves reliable, accurate and timely storage and retrieval of employee records.

Most organisations, especially, large firms use to have the problems of records management. The Nigeria Police Force, for instance, finds it difficult to have a general overview of its employees. They are also faced with the problems of loss of information, time wastage in getting out information, files not properly kept, and host of other problems.

In recognition of the above problems, they finally divided the country into zones, about eight of them, to be precise. Each of these zones consists of 4 or 5 states within the same vicinity. The implication of this that informations about the staff are decentralised, that is, store in the zone they belong. As a result of this division, the problems persist and at a point, it tends to become worse. This then necessitate the need to computerise the personnel records management of the police force.

However, it is hoped that the computerisation would solve the problems highlighted as well as forming the basis for further computerising other operations in the force.



## 1.2 THE DEVELOPMENT OF THE NIGERIAN POLICE FORCE

An examination of the origins development and role of the British - inspired police forces in Nigeria reveals that they were shaped by the nature of European interest in the country and the reactions of the indigenous people to their activities. One of such long standing European interests in West Africa was commerce. Before the imperial acts of 1807 and 1833 abolishing the slave trade and slavery, there was not much British interest in establishing a formal police force in this part of West Africa. In the preceding centuries, British and other European traders had relied on the protection provided by the West African Chiefs who controlled the various pre-colonial law enforcement agencies.

The pioneering efforts at the government during the nineteenth century gave way to steady consolidation within the first three decades of the present century. In the same way, the earlier police establishments of the preceding became recognised, expanded and strengthened between 1900 and 1930.

Such Police re-cognisations occasionally kept slow pace with the general trend of administrative arrangements of which a dominant feature was the amalgamation of smaller units. Although from 1898, the government had recognised the need for bringing the various parts of Nigeria under a common administrative hand, the execution of that policy for political and economic reasons proceeded gradually till 1914.

Until May 1906, three separate police forces served the needs of the colony and protectorate of Lagos, the protectorate of Southern Nigeria and the Protectorate of

Northern Nigeria. With the amalgamation of Lagos and the Protectorate of Southern Nigeria in May 1906, the existing police force at the two territories were merged under a commissioner.

That arrangement remained in force until the 1914 amalgamation of Northern and Southern Nigeria when it became necessary to review the existing police arrangement for the country, but no decision for an immediate amalgamation of the police forces of the Northern and Southern province was taken in 1914. None was seriously considered until the period 1926-1930. By far, the most significant change which affected the police came in 1930 after serious consideration from 1926. The police amalgamation of 1930 followed logically from the political amalgamation of 1914. There is no doubt that in prestige and functions the Nigerian Police Force after 1930 remained the premier police institution of the country. On it lies the primary duties of a modern police organisation.

In these present days, the population of the Nigerian Police is so high that their control is almost impossible. Activities such as transfer, promotion, discipline, recruitment and other important issues relating to the force are not being performed equitably well. It is as a result of the problem that they were divided into zones. Presently, NPF has eight(8) zones in the country with each zone comprising of about 4 or 5 states under its jurisdiction. The headquarter of the zones are in Kano, Lagos, Yola, Makurdi, Benin, Calabar, Wuse and Lokoja. Each of the zones and their respective states are listed below:

became aggravated by party political rivalries also require the full attention of the policemen in order for the situation to be calm.

Apart from the services rendered by policemen in terms of maintenance of peace within the country, they also provide services to the world. The NPF established for itself and the country a high reputation abroad during its part-time and full-time services in war and peace. In terms of war, the NPF helps to bring peace to some troubled parts of the world. In Africa, the NPF provides training opportunities for members of the police forces of neighbouring territories.

To Nigerians with the requisite qualifications and drive, The NPF provided valuable opportunities for employment, education and welfare. In these respects, the NPF directly and indirectly assisted Nigeria's economic and social development. By offering employment to tens of thousands of Nigerians, it helped to tackle the perennially difficult problems of unemployment in a developing country. Such employment in the Nigerian environment could bring positive advantages to the families dependent upon the policemen and women.

Through its various training programmes, the NPF has both improved the efficiency of its services and imparted valuable general education and necessary skills to able and resourceful policemen and women. Not only are these persons encouraged to specialise in such branches as CID work, drill, dog handling and fingerprints, they are also free to choose careers in photography, radio technology, teleprinter services, signals operation, driving and motor mechanics. After retirement, they would be able to benefit from the skills acquired during their police service either as security

advisers to private firms or as workers in the various fields of their specialisation. Other members of the NPF who were recruited as illiterates sometimes gained from the opportunities for general education offered them in the various training institutions of the NPF.

1.4

### **OBJECTIVE OF THE STUDY**

The main objective of this study is to provide an indepth analysis and the need for a computerised personnel procedure for Zone 7 of the Nigerian Police Force comprising of Niger, Kebbi, Sokoto states and Abuja. Specifically, its main objectives are as follows:

- i. To study and analyse the activities of the personnel department of the zone.
- ii. To observe the problems associated with the existing personnel operations in order to provide the need for a computerised operation in the organisation.
- iii. To provide a logical and physical design of a computerised personnel system that will suit the zone.
- iv. To describe the various operations of the proposed computerised system and its mode of operations.
- v. To eliminate delays involved in the retrieval of personnel information.
- vi. Automatic generation of the necessary personnel reports as would be required.

More importantly, the study is inspired by the conviction that the achievement of a good computerised personnel department in Zone 7 of the Nigerian Police Force

will lead to the success of the organisation in terms of achieving its stated objectives. It is also hope that this would be the basis of computerisation of all the activities of the entire Nigerian Police Force.

## 1.5 **METHODOLOGY OF THE STUDY**

In trying to fashion out an automated personnel management g system, many methods were involved in gathering the necessary information on the existing system as well as the requirement of the proposed system. The methods are discussed below:

- i. **OBSERVATION**:- This method was used to directly study the operations of the existing system. It is made possible because the researcher is a staff of the zone.
- ii. **RECORD REVIEW**:- Written informations such as forms and various reports used in the operation of the existing system were reviewed and analysed.
- iii. **INTERVIEWING**:- This was used mainly to confirm some informations gathered using the above two methods. It was also used to obtain informations or suggestions that can be considered relevant to the proposed system.

# CHAPTER TWO

2.0

## LITERATURE REVIEW

### 2.1 REVIEWING THE CONCEPT OF PERSONNEL MANAGEMENT

Management is the total planning, organising, directing and controlling of the rare resources of people, information, money and technology to reach stated results with economy, efficiency and effectiveness. All these require a very broad strategic plan of how the manager is to do it. He must be a person who can visualise where he wants the institution to go and he can get there. He needs to visualise the future. Management becomes a process of planning, organising, directing and controlling the knowledge that are processed by the workforce. The effective manager who is result-oriented, must have knowledge about the various knowledge he is trying to manage. He must know about personnel work, financial management and information systems and the particular technology that applies to his work. The challenge of a manager is, throughout his working life, to try to understand more and more about the motivations and actions of people.

Personnel management is defined as that part of management concerned with people at work and with their relationships within an enterprise. Its aim is to bring together and develop into an effective organisation the men and women who make up an enterprise and, having regard for the well-being of the individual and of working groups, to enable them make their best contribution to its success. Personnel management is also concerned with the human and social implications of change in

internal organisation and methods of working, and of economic and social changes in the community.

The concept of personnel management evolved from a narrow concern with welfare and recruitment to an awareness on the part of management of the importance of people, their relationship with each other, and the performance of the organisation as a whole, with the realization that every decision or act of management had a potential impact on employees. Since every action of management affects the employees of an organisation in some way, personnel management pervades all activities and, whatever the formal arrangement of personnel activities may be, all managers have a responsibility, however small or indirect, for part of the personnel function.

Today, the range of activities considered appropriate to the personnel function is wide. Activities regarded as coming within the sphere of personnel management include - recruitment and selection, employee services (e.g. welfare, safety, health), training and education, remuneration (e.g. pay scales/ranges, Job evaluation and grading, merit awards and reviews, fringe benefits), organisation of work (e.g. hours, shift-working, holidays), industrial relations (e.g. trade union relationship, negotiation, joint consultation, disputes and grievance procedures, redundancy procedures), manpower planning (e.g. manpower forecasting, labour-turnover and absenteeism analysis).

There has been, in recent years, an increasing awareness of the effect of organisational structure on efficiency and good relations within an organisation and

the identification and resolution of problems which arise from inappropriate structures, or from the changes due to technological and administrative developments are now seen as important functions of the personnel specialist. Senior or top-level personnel specialist are also concerned with management development which involves them in the assessment of the organisation's requirements in terms of managerial manpower, the formulation and implementation of schemes to provide for adequate and suitable management succession, the preparation and implementation of counselling, career development and training programmes for individual managers or officers and the formulation and implementation of performance review and appraisal schemes for managerial staff.

To equip them to deal with the range of activities for which they are responsible, personnel practitioners need to acquire a range of specialist skills and knowledge. They have to be familiar with the detailed provisions of the new considerable body of legislation affecting people at their place of work, to be aware of the implications of such legislation for their employers and to be able to offer advice on, and assist in the formulation of appropriate personnel policies. They may have to become expert in complex management techniques such as manpower forecasting and budgeting and to keep abreast of development in these areas. They may have to be knowledgeable about to assess their respective merits, to prepare and administer selection tests, to draw up training schemes for various categories of workers, to understand the finer points of work study techniques.



In response to this need for personnel specialist to be well versed in personnel management and related techniques, training in personnel work has expanded considerably in recent years. This is evidenced by the number of courses provided by Nigeria Institute of Management, and the Institute of personnel management of Nigeria as well as governmental agencies such as Nigeria Institute of policy and Strategic Studies (NIPSS), Kuru and the Administrative Staff College Of Nigeria (ASCON), etc to train personnel practitioners.

## **2.2 FUNCTIONS OF PERSONNEL DEPARTMENT**

Specifically, the functions of the personnel department of any organisation are as follows:

### **RECRUITMENT AND SELECTION**

The personnel management as a system plays a key role in recruitment and selection of employees into organisations. The personnel department is at an advantage because it knows the manpower needs of the organisation and it is its duty to provide these required manpower needs. To be able to do this, the personnel department use to prepare a concise job description and specification stating clearly the title of the job, and the responsibility required. The physical condition required for the job and other information such as the qualification required, experience, salary and the condition of service would also be provided. Based on this, the personnel department looks for suitable people who will meet the requirement of the job. Since the success of any organisation is so much dependent on the resources available to

it, the staff of the personnel department must, therefore, take great care in selecting the right persons.

### **MANPOWER PLANNING**

Personnel management as a system performs the vital role which cuts across other department of the organisation. Manpower planning is a specialist function which should be left in the hands of those who can perform the functions adequately in the organisation. In performing this role, personnel department adopts a system whereby it evaluates the existing manpower resources of the organisation and then forecast the labor requirements of the organisation.

### **TRAINING AND DEVELOPMENT**

After establishing a manpower plan for the organisation and having also attended to the recruitment and selection procedures, personnel department now focuses its attention on training and development of the employees. Training is a short term process of learning specific skill by both junior and intermediate staff. Development, on the other hand, is a long-term learning process designed to develop senior officers in order to acquaint them with changes in technology and management methods. Personnel department collects information in the area of training through discussions with other heads of department and through other documents in the organisation.

## **STAFF APPRAISAL**

Staff appraisal is a process of determining the success, failures, and effectiveness of all functionaries of the organisation towards the set objectives. It is, therefore, the duty of the personnel people to devise a system whereby all functionaries within an organisation could be appraised to find out if they are performing the tasks allocated to them satisfactorily. Staff appraisal, when properly carried out, has advantages both to the organisation and the employees.

## **JOB EVALUATION**

Job evaluation is a process of analysis and assessing relative worth of Jobs in an organisation in order to place them on an acceptable rank order which can be used as basis for pay structures. It is a design that helps to determine the correct salary to be paid to every job to ensure fair play and justice to all and sundry. The personnel department is directly involved in this process and should ensure that the method used should be acceptable to all concerned.

## **SALARY, WAGES AND CONDITION OF SERVICE**

This is another area of personnel functions, salary and wages go a long way in motivating workers in an organisation. To do this effectively staff of personnel department must take into consideration the four major components of a salary structure.

## **INDUSTRIAL RELATIONS**

Peace and harmony are quite essential within an organisation. personnel department must be able to cope with problems of industrial relations right from the grass-roots levels. To be able to do this, the staff of personnel department must possess an up-to-date knowledge of the history of the union they have to deal with. They must be familiar with the current legislation on industrial matters and ensure compliance. They must always be familiar with the organisation's procedure on matters related to union and, above all, possess negotiation skill in order to safeguard the interests of the organisation at all times.

## **COMMUNICATION**

This is the most difficult function for the personnel specialist. It is the first skill the staff of personnel department should possess. They must be able to communicate effectively. It is by effective communication that conflicts in organisation can be reduced to a tolerable level.

## **PERSONNEL RECORD MANAGEMENT**

One of the major functions of the personnel department is the storage of data and information about the employees in an organisation. This involves keeping of personnel records for effective management and prompt retrieval. It is the duty of the personnel department to develop records that are simple, easy to maintain, accurate, comprehensive and also relevant to the needs of the organisation. The personnel

records should not be duplicated and should be maintained and updated from time to time.

### 2.3 **THE CONCEPT OF RECORD MANAGEMENT**

Records management can be defined as the art of preserving essential records accurately in an organisation and subsequent speedy retrieval as information for decision making. It is also a close study of modern management techniques on filing and retrieval systems, provision of modern office equipment and machinery, accommodation and facilities as well as the organisation and management of registries.

It is quite obvious that records are as important as other resources such as manpower, finance, and material resources. Information, in other words, is the product of processed data or records. The commonest system in any organisation of maintaining, strong and retrieval of personnel records and information is the use of files in the correspondence registries. Most of these registries are usually dingy places, ill-equipped, poorly staffed and poorly ventilated. In addition, some officers have no regards for records and they are not aware of the importance of the registries as the nerve-center and live-wire of the organisation.

Although the principles and concepts of personnel Records Management are universal, each organisation or office has its specific features and problems which need to be identified before a suitable solution can be found. As observed, antiquated methods need to be modernised. The problems of records management is becoming

more acute from day-to-day because of the accelerating accumulation of papers, including personnel papers which make their control ever more difficult. This can, however, be solved or simplified by the application of modern management techniques including provision of appropriate filing equipment, adequate accommodation, staff development and training, motivation, proper classification, indexing, filing and numbering of files.

#### 2.4 **PURPOSE OF PERSONNEL RECORDS**

Personnel records are kept for a variety of reasons, depending on the objectives, functions and environment of the organisation. The following are regarded as being pertinent:

- (i) To furnish the much needed information on organisational manpower, which is useful for both internal and external management of the organisation.
- (ii) To provide accurate information on manpower planning in terms of educational qualifications, cognate experience, knowledge and skills of employees, their potentials and placement opportunities.
- (iii) To generate information on human resource research. That is, necessary information is supplied to validate hiring, selection, placement and promotion criteria.
- (iv) To furnish information on employee strengths and weaknesses so that appropriate training and development schemes can be designed and implemented in a systematic fashion.

- (v) To provide information on how best to conduct industrial/employee relations.
- (vi) To generate information on the capability and productive profiles of each employee. That is, manpower recognition which will assist in determining bonus payments, advancement/promotion, demotion, transfers etc.
- (vii) To provide factual data as a basis for decision making in every area of personnel work, e.g., manpower forecasting and planning, recruitment and selection, training and development and health and safety.

## **2.5 COMPUTER APPLICATION TO PERSONNEL MANAGEMENT**

Today's computer has a very wide application. The fact is that computer can be programmed to perform a variety of tasks that involved little or no mathematics. The computer can provide information to management for decision making. For the staff of personnel department, it provides information required for:

- (i) Planning for human resources needs of an organisation.
- (ii) Finding and hiring employees.
- (iii) Training and compensating staff.
- (iv) Retiring employees.

In addition, the personnel department can use the computer to store the employee records for proper and reliable retrieval of information. The ability of the computer to perform these various functions is due to the availability of application packages. An application package is a program or set of programs designed to perform

a specific type of work, such as payroll, sales ledger, personnel record, etc. These packages include Databases, Wordprocessing, and spreadsheet packages. All these have direct impact on Personnel Management.

When applied to personnel, a good database management system can process personnel information in a variety of ways. For instance, it could display the information on the screen or by printing a report. Additionally, the record of all employees can be stored and retrieved as required. Its ability to sort and search data allows informations to be retrieved in an orderly manner.

Other areas of application of the computer to personnel management have to do with communications/terminal emulator packages which allows the manager to talk to other people through the computer. This is a good device for collecting data on applicants, cross-checking with referees and sending information to shortlisted candidates or those offered places. Data on employees in various branches can also be transferred easily and promptly for use. As stated earlier, therefore, the aims of personnel records is, to a large extent, determined by the aims of the organisation in general, and the aims of the personnel department in particular. This is because personnel records should be seen as a subset of the personnel information systems.



# **CHAPTER THREE**

## **3.0 SYSTEM ANALYSIS AND DESIGN**

### **3.1 INTRODUCTION**

The system analysis and design stage involves analysing the existing system in order to aid the designing of the proposed system. The analysis is considered important because the design of the new system is dependent on whatever information gathered during the analysis stage.

In recognition of the above, this chapter begins with the description of the existing method as well as outlining the problems associated to it so that the new system to be designed will be able to meet the expected benefits. In addition, this chapter also analysed the approach to personnel record management and information system so as to form the basis of the new system. The choice of language used in the design and its features are also highlighted in this chapter.

### **3.2 THE EXISTING METHODS OF RECORDS MANAGEMENT IN NPF**

This is an important stage of system development and it involves carrying out some findings as regards the existing procedures in an organisation. It is therefore based on the analysis made that a design will be carried out such that it will suit the present and future needs of the organisation.

However, the present method of record keeping in Zone 7 of the Nigerian Police Force is fully characterised by paper work and file handling. There is a section in the headquarter of the Zone with the responsibility of keeping staff records. If the need arise to retrieve any partyicular staff record, the information would be sent to the section where the searching of the appropriate file begins. Often, the search may be unsuccessful or in most cases the required information is located within the file.

### 3.3 PROBLEMS OF THE EXISTING METHODS

The introduction of computer in the present day world is expected to replace manual operations. This necessary due to increased activities in our present day life. However, in areas where manual is still in place, there exist various problems such as loss of vital information, insecurity of data, late retrieval of necessary details and host of others which lead to inefficiency in the general operations of the system. The net effect is that the organisation that faces such problems would not be able to meet up the set objectives.

Specifically, the problems associated to managing staff records in the Nigerian Police Force are as follows:

- i. Inaccurate, incomplete and incorrect documentation.
- ii. Explosive volumes of records which is tantamount to over-creation or over-generation of data and attendant duplication.
- iii. Lack of safeguards on the confidentiality, accuracy and relevance of personal information.

- iv. Poor and inaccurate storage facilities as manifested in accomodation and equipment infrastructures.
- v. Increasing search time which is a manifestation of poor retention and retrieval procedures.
- vi. Increasing retention of useless and outdated records which is indicative of absence of regular records census.
- vii. Absence of validation mechanism which is a function of the problems originally inherent in input data collection to ensure that it is correct, and updating to ensure its currency, reliability and verifiability.
- viii. Uncontrollable access, misplacement and loss of vital documents.
- ix. Low calibre staff are put in charge of records, arising from low value attached to records, or misinformation about the value of good record keeping in organisational life.

In recognition of the above problems, the department has not been able to meet up most of its obligations.

### **3.4 THE DESIGN OF THE PROPOSED SYSTEM**

The design of the proposed system is done to suit the analysis specified above. The design takes cognisance of the software that would be applicable to the computerisation of the existing personnel procedures in the NPF. It gives full consideration to both the required input and output as well as database files that will be required by the system.

### 3.5

## **CHOICE OF LANGUAGE**

The proposed system is written using Database Management System (DBMS). A database is an organised collection of related information designed to meet the various needs of an organisation or establishment. DBMS is a package of computer programs and its documentation used to create, maintain, organise and retrieve information from a database. It is a software package that help establishments or institutions manage their data resources.

Specifically, the important function of a DBMS are Create and populate a database, Retrieve data from the database, Generate report from the database, Update information in the database, Organise the data of the database, Maintain integrity and consistency of data, Provide shareability of data to users.

Database management software is of various types which include dBASE, Foxbase, R:base, Informix, Paradox, Oracle and a host of others.

Specifically, the new system is developed in dBASE. dBASE is of various versions such as dBASE II, dBASE III, dBASE III +, dBASE IV and dBASE V. dBASE IV which is the particular dBASE program used in the software development has capabilities for programming.

### 3.6

## **FEATURES OF LANGUAGE CHOSEN**

In the early days, programs were developed in a file processing environment. In this environment, users, requirements are treated in isolation, with application

program operating almost independently. Files and records are designed in such a way as to satisfy individual operational needs thus imposing organizational barriers with regards to the data.

However, in most information systems, it is desirable to have the ability to jump over these imposed barriers and access data right across the organisation.

This lead to the introduction of database environment. In data processing environment, data are view as a whole irrespective of their type. Furthermore, the integration of data of different types are linked by logical relationships through a DBMS. The features of DBMS are as follows:

## **1. DATA INTEGRATION**

In a database, information from several files is co-ordinated, accessed and operated upon as though it is in a single file. Logically, the information is centralised, physically the data may be located in different files. In addition, it is possible for two or more application to be sharing compatible data.

## **2. DATA REDUNDANCY IS ELIMINATED**

Data redundancy occurs when the same data appears in more than one file. This leads to wastage of storage space and duplication of efforts during data entry. One basic feature of DBMS is that it eliminates data redundancy since data are not duplicated in files.

### 3. **DATA INDEPENDENCE**

Another feature of DBMS is that it ensures data independence because application programs are isolated from the physical or logical storage of data. This feature seeks to allow for changes in the content and organisation of physical data without re-programming of applications.

### 4. **DATA INTEGRITY**

This is an important features of DBMS. Since data is stored once without duplication, the information retrieved is consistent as only one update is enough if there is a change in the data.

#### 3.7

### **SYSTEMS INPUT**

For computer to perform the task of data processing, data needs to be input into it. The system input states the source and type of data that needs to be supplied into a system. This is considered important because if the information supplied are correct, definitely the result the computer will give would be right. This is inconsonance with the saying in computer parlance, that is "Garbage in Garbage out (GIGO)". It is in recognition of this that the input of the proposed system is designed to produce a cost effective method, achieve the highest level of accuracy and ensuring that the input is acceptable to and understand by the users.

For the proposed system, the data needed are the personal information of the employees which is provided at the point of joining the force. Other informations would be transfers, promotion and demotion, discipline and so on. All these are needed in order to update the information contain in the system. student as well as their respective scores in both the continuous assessment and examination.

### 3.8 **SYSTEMS OUTPUT**

A computer performs its expected task internally and the results may not be produced until it is told to display them. However, output refers to the results and information that are generated by a system. The output from a computer system are required primarily to communicate the result of processing to users or other system or more importantly to provide a permanent copy of these results for consultation.

Basically, the proposed system will produce two forms of reports namely - soft copy and hard copy. The soft copies are reports displayed on the computer screen while the hard copy are those directed to the printer. However, the reports to be generated may be in group based on rank or department or the listing of all the staff in the Zone.

### 3.9 **STRUCTURE OF DATABASE FILES USED**

As stated earlier, the new system is proposed to be designed using Database Management System. This requires storing the data to be used in a database file. The

design of database file defines the description of all the files that will be used in the proposed system.

It includes the description of the content of the files used and their structures. The structure states the field names, field type and the field width associated to each of the file.

The proposed computerised personnel management information system for Zone 7 of the Nigerian Police Force is designed to use 2 database files namely: MASTER.DBF and DIVISION.DBF. The description and contents of these files are as follows:

**MASTER.DBF**:- This database file is like a reference file which contains all the details of all the employees in the Zone at any point in time. Its structure is as stated below:

S/NO	FIELD NAME	FIELD DESCRIPTION	FIELD TYPE	WIDTH
1.	FN	STAFF FILE NO.	CHARACTER	6
2.	SURNAME	SURNAME	CHARACTER	15
3.	FNAME	FIRST NAME	CHARACTER	20
4.	ONAME	OTHER NAMES	CHARACTER	20
5.	DOB	DATE OF BIRTH	DATE	8
6.	POB	PLACE OF BIRTH	CHARACTER	15
7.	ORIGIN	STATE OF ORIGIN	CHARACTER	12
8.	LGA	LOCAL GOVT AREA	CHARACTER	15
9.	TOWN	TOWN OF ORIGIN	CHARACTER	15



10.	SEX	SEX	CHARACTER	1
11.	AGE	AGE	CHARACTER	2
12.	HADDR	HOME ADDRESS	CHARACTER	30
13.	PADDR	POSTAL ADDRESS	CHARACTER	30
14.	PQUAL	PRESENT QUALIFICATION	CHARACTER	20
15.	PEXPR	PREVIOUS EXPERIENCE	CHARACTER	20
16.	NKIN	NAME OF NEXT OF KIN	CHARACTER	20
17.	AKIN	ADDRESS OF NEXT OF KIN	CHARACTER	30
18.	DOA	DATE OF APPOINTMENT	DATE	8
19.	RCODE	RANK CODE	CHARACTER	2
20.	DCODE	DIVISION CODE	CHARACTER	1
21.	SCODE	STATE OF SERVICE	CHARACTER	12

**RANK.DBF**:- This database file is a file that contain all the existing divisions in NPF. The structures of the file is as shown below:-

S/NO	FIELD NAME	FIELD DESCRIPTION	FIELD TYPE	WIDTH
1.	RCODE	RANK CODE	CHARACTER	2
2.	RNAME	RANK DESCRIPTION	CHARACTER	20

### 3.10 THE PHYSICAL DESIGN OF THE PROPOSED SYSTEM

This section deals with the physical construction of the logical design above. It has to do with the program specification for output input database files and processing into computer softwares. The designing of the computer software is important to ensure that the actual programs produced perform all tasks as intended and to allow for future modifications to be performed in an efficient manner and with a minimum destruction to the design of the system. Therefore, the documentation of the program specification are listed in Appendix B.

### 3.11 COST ANALYSIS

In order to determine the cost of operating the proosed system, it is necessary to recognise the various ways in which costs may be incurred. Costs incurred are usually in the following categories:

#### a. DEVELOPMENT COST

- i. Computer hardware
    - 3 IBM Computers with the following configuration:
      - Pentium 133 Mhz
      - 16 MB RAM
      - 2.1 GB Hard Disk
      - SVGA Monitor
- @ ₦160,000 each = ₦480,000
- 
- UPS
    - 3 UPS (250 volts) @ ₦65,000 each = ₦195,000

COMPUTER PRINTERS		
	1 LaserJet Printer (Laser 4 Plus)	= ₦150,000
	1 Epson Printer (LQ 2170)	= ₦70,000
ii.	Installation cost	= ₦25,000
iii.	Personnel Training - 3 operators @ ₦8,000.00	
	per month for 2 months	= ₦25,000
		-----
	TOTAL DEVELOPMENT COST	₦968,000
		=====

2. **SYSTEM OPERATING COST**

i.	Program maintenance 1 programmer @ ₦5,000.00 per month for 1 year	= ₦60,000.00
ii.	Installation of Air conditioner	= ₦25,000.00
iii.	Utilities (Light)	= ₦15,000.00
iv.	Supplies of computer papers and other consumables	= ₦15,000.00
v.	Labour cost - 2 Computer Operators @ ₦2,000 per month per operator for 1 year	= ₦48,000.00
vi.	Miscellaneous expenses	= ₦15,000.00
		-----
	TOTAL SYSTEM OPERATING COST	₦178,000.00
		=====

**OVERALL TOTAL COST = ₦1,146,000.00**

### 3.12 **BENEFIT OF THE PROPOSED SYSTEM**

Specifically, the Nigerian Police Force would derive the following benefits from this newly designed system:

- i. Enhance the efficient operation of the organisation in terms of personnel control and discipline.
- ii. Creation of speedy ways of responding to enquiry in order to provide a reliable way of formulating policy.
- iii. Avoidance of constant problems as being experienced with the existing system.
- iv. Creation of speedy ways of generating reports from the system.
- v. Maintenance of data security.
- vi. Allow for carrying out major changes in the design of the system since the new system is fully documented.

# CHAPTER FOUR

## 4.0 SYSTEM DEVELOPMENT AND IMPLEMENTATION

### 4.1 INTRODUCTION

The systems implementation and application stage is required to put into use the newly designed system. This is always done to provide the environment conducive for efficient working of the system. This chapter begins with the requirements of the workstation which is discussed in terms of the hardware configuration and software types required for the computerised procedure. The mode testing of the new system and conversion to the system which are considered important are also described in this chapter. Finally, the documentation of the workings of the system is also considered essential in order to aid references by the users as well as to aid proper understanding of the system.

### 4.2 HARDWARE CONFIGURATION

The new system is designed to work on a standard micro-computer linked in form of a network. Specifically, the computer configuration should include a micro-computer, a printer and an uninterrupted power supply, (UPS). The description and capacity of each of these are as follows:-

- i) **COMPUTER HARDWARE**:- 3 micro-computers of not less than a Pentium microprocessor with a minimum RAM (Random Access Memory) of 16 MB and

a speed of about 166 MHZ (megahertz). One of the computer should possess a hardware disk capacity of about 1.7GB (Gigabyte) and a floppy disk drive unit providing for 3.5 inches diskette. The remaining two can possess a less configuration in terms of the speed and RAM capacity. The features of the proposed micro-computers is to ensure speedy retrieval of information and to meet up the future computer needs of the organisation.

- ii) **PRINTER**:- A printer is required to make hard copies of the reports that will be generated. In the proposed system, a printer is required for the generation of the necessary reports. For this purpose, a printer of neat letter quality feature and speed of about 1200 lines per minute with a maximum width of 132 characters per line is recommended. Specifically, an EPSON printer, LQ 2170 is recommended. In addition, for the production of other important document, a LaserJet printer would also be required. This could be in the range of LaserJet 5L or LaserJet 6L.
- iii) **UPS**:- This facility will ensure constant power supply to the computer and its environment. It will have the capability for automatic provision of power in case there is power failure in order to allow for continuity of job. This is considered very important because of the erratic power supply.

#### 4.3

### **SOFTWARE REQUIREMENT**

The introduction of computer in Zone 7 of the Nigerian Police Force should not only be used to handle Personnel matters alone. This is because computers can also

be used for other purposes like text preparation, data analysis, engineering design and other forms of data processing. This, mostly requires the use of application packages. Application packages are ready made programs developed by group of experts for specific applications. They have the advantages of flexibility, relatively cheap and easy to use.

Specifically, I would recommend that the authority of the Nigerian Police Force to purchase dBASE IV, WordPerfect 6.0 (a word processing package) and Lotus 1-2-3 (a spreadsheet package). The dBASE IV is needed to allow for modification of the suite of programs of the new system since they were developed in the environment. For the word processing package, the WordPerfect 6.0 will be used to produce text document which will be of immense importance to the organisation. The Lotus 1-2-3 is expected to aid some calculations and analysis which may be required.

4.4

## **SYSTEMS TESTING**

Systems testing is the stage of implementation which is aimed at ensuring that the system works accurately and efficiently before life operation commences. The logical design and the physical design should be thoroughly and continually examined on paper to ensure that they will work when implemented. Therefore, the systems testing in implementation should serve as a confirmation that all is correct and an opportunity to show the user that the system works.

However, this proposed system was fully tested to confirm its reliability. Specifically, a user acceptance testing was performed. This type of testing involves

the users of the program in testing to confirm that the system is doing what is required to be done. The testing was done using a set of carefully selected test data which was entered into the system. The result was compared with the result obtained from the previous run and they were found to be the same.

In view of this, it is then concluded that the newly developed systems is working accordingly.

#### 4.5 **SYSTEMS CONVERSION**

This involves file conversion, file setup and changeover. File conversion requires changing the old (existing) system files to the format and content required by the new system. File setup is the process of setting up the converted files on the computer. Changeover is the full replacement of all the old procedures by the new ones.

The change over could be in any of the three following forms:

- i) Parallel changeover
  - ii) Direct changeover
  - iii) Pilot changeover
- (i) Parallel ChangeOver requires with the old and new system to run concurrently for some time using the same inputs. The output of the two systems are compared. This will continue until the new system is confirmed to be working satisfactorily



- (ii) In the case of direct ChangeOver the old system becomes operational immediately.
- iii) The pilot ChangeOver requires changing to the new system on a piece meal.

All the above highlighted procedures of a system conversion are required for the new system. It should be noted that the file conversion and file set-up can be performed by a computer operator under a close supervision. However, it is recommended that a parallel changeover method for the full conversion of the system. This is to ensure that within the period of changeover, the store activities in terms of storage and information retrieval are not, in any way affected.

## 4.6 **SYSTEMS DOCUMENTATION**

Documentation is the description of how a system works. This is done to ensure better understanding of the system by the users incase of any problem. Therefore, in documenting the proposed system, the mode of starting the new system and the description and linkage of the menu structure would be stated.

### 4.6.1 **STARTING THE SYSTEM**

As stated earlier, the new system is developed using dBASE IV. For the system to work at all, there is need to install dBASE IV on the computer to be procured. If this is done, the program would be started by typing "DO NPF" at the dot prompt mode

of dBASE IV. This would lead into the first level of menu in which user would select from the choice available.

#### 4.6.2 **DESCRIPTION OF THE MENU STRUCTURE**

The menu structure will be discussed using the diagram in the appendix. Note that the diagram represent the screen design of the proposed system.

Specifically, the new system is composed of FIVE options in the main menu as represented by Diagram I in the Appendix. These options are PERSONNEL DATA UPDATE, DATA ENQUIRY, TRANSFER UPDATE, REPORTS GENERATOR and SYSTEMS EXIT. Each of these options has a code which is used for selection. The options are discussed in turns as follows:

- i. **PERSONEL DATA UPDATE**: This option is used to manage the details of the Force personnel. It contains a submenu as represented in Diagram II. The ADD NEW STAFF option enables the user to enter the details of new candidate joining the Force. The EDIT STAFF RECORD is used to modify the details of the existing staff. VIEWING STAFF RECORD is used to display a record while the DELETE STAFF RECORD is used to remove a record that is no more needed in the system.
- ii. **DATA ENQUIRY**:- The DATA ENQUIRY menu is used to carry out enquiry on group of staff either by RANK, or DIVISION, or STATE as displayed in Diagram III in the appendix.

- iii. **TRANSFER UPDATE**:- This option is used to update the system whenever a transfer exercise is carried out.
- iv. **REPORT GENERATOR MENU**:- This option is used to produce the necessary reports required from the system. This submenu of this option is represented by Diagram IV in the Appendix.
- v. **SYSTEMS EXIT**:- The SYSTEMS EXIT menu is used to quit the system and the user would be expected to be taken back to the dot prompt mode.

# CHAPTER FIVE

## 5.0 SUMMARY, RECOMMENDATION AND CONCLUSION

### 5.1 SUMMARY

This project work was conceived based on the need to computerise the handling of personnel matters of the Nigerian Police Force. It was observed that the organisation, for sometime now, has been facing some problems ranging from loss of personnel details to inaccurate retrieval of information. The problems identified have been highlighted in the earlier part of this project work. In the study, it was stated that all the existing problems will be controlled if and when a computerised procedure is installed for the organisation.

However, a computerised procedure cannot just be put in place without going through some stages of its development. The analysis of these procedures were examined and the result was considered in the design of the proposed system. The considerations of the design is both logical and physical for the necessary requirements. Given the design of the proposed system, the required environment for the system was also considered in terms of the computer configuration. The documentation which serves as the description of the new system was also described for the purpose of reference for the users.

5.2

## CONCLUSION

The continued substitution of computer based system for manual procedures has in modern days, become a world wide affairs. This is due to its relevance in virtually all aspects of human endeavour. This interest is, however, intensified by the capability of computers in performing a given set of procedures with all the necessary accuracy. It is not subjected to committing errors, and Its ability of accomplishing any task with high speed.

Therefore, it could be stated that the introduction of a computer based system in storing informations about the personnel of the Nigerian Police Force would solve all the highlighted problems and any future ones.

5.3

## RECOMMENDATION

The need for the installation of the proposed system is to ensure the maximization of its benefits. However, for the system to be of immense benefits to the Nigerian Police Force, the following recommendations should be adopted.

1. **MANPOWER REQUIREMENT**:- The use of computer in an organisation requires the services of trained professional in Computer Science. As a result of this, it would be recommended that trained computer professional needs to be recruited. Some of the new staff like the typist will have to be trained to the use of WordProcessor. The Computer professional to be employed needs to be knowledgeable about the concept of Database Management System. This is to

ensure future modification of the suite of programs that constitute this proposed system.

2. **TRAINING REQUIREMENT**:- There is the need for the training of a staff in the organisation on how to use the proposed system. This could take the form of seminar. This is expected to be done before the installation of the system.
3. **SECURITY**:- In any computer based system, there is the need for security in order to avoid both logical and physical problems. In view of this, people (both staff and outsider) should not be given any access into the computer room.
4. **COMPUTER ENVIRONMENT**:- Normally, a computer environment should be air-conditioned. The authority of the Force should provide a good cooling facility for the computer so as to ensure durability of the system.

However, it should be realised that the above recommendations need to be adopted in order to fully maximize the importance of a computer based system.

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# APPENDIX A

NIGERIAN POLICE FORCE - ZONE 7

PERSONNEL MANAGEMENT INFORMATION SYSTEMS

FIRST LEVEL MENU

CODE	TASK
A	PERSONNEL DATA UPDATE
B	DATA ENQUIRY
C	TRANSFER UPDATE
D	REPORT GENERATOR
Q	SYSTEMS EXIT

PICK OPTION (Press a Code) :

DIAGRAM I

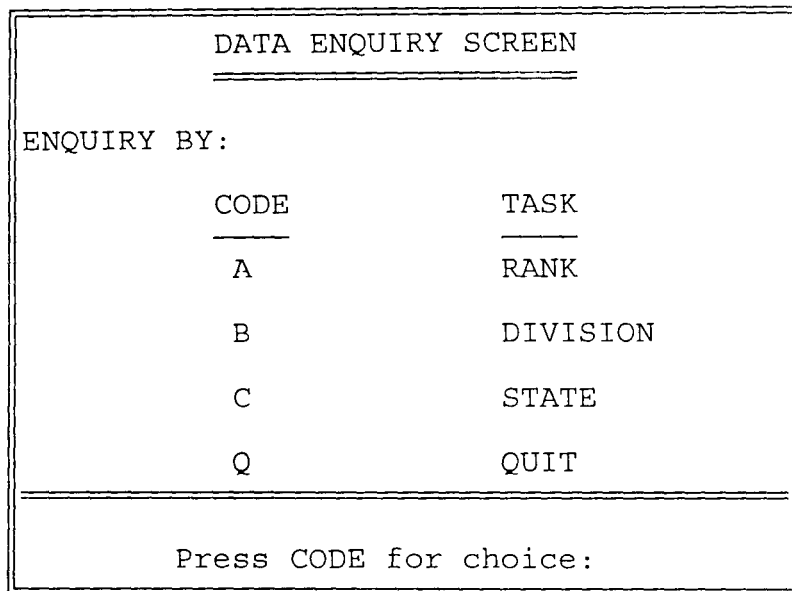


PERSONNEL DATA UPDATE MENU

<u>CODE</u>	<u>TASK</u>
A	NEW STAFF RECORD
B	EDIT STAFF RECORD
C	VIEW STAFF RECORD
D	DELETE STAFF RECORD
Q	QUIT

Press CODE for choice:

DIAGRAM I



*DIAGRAM II*

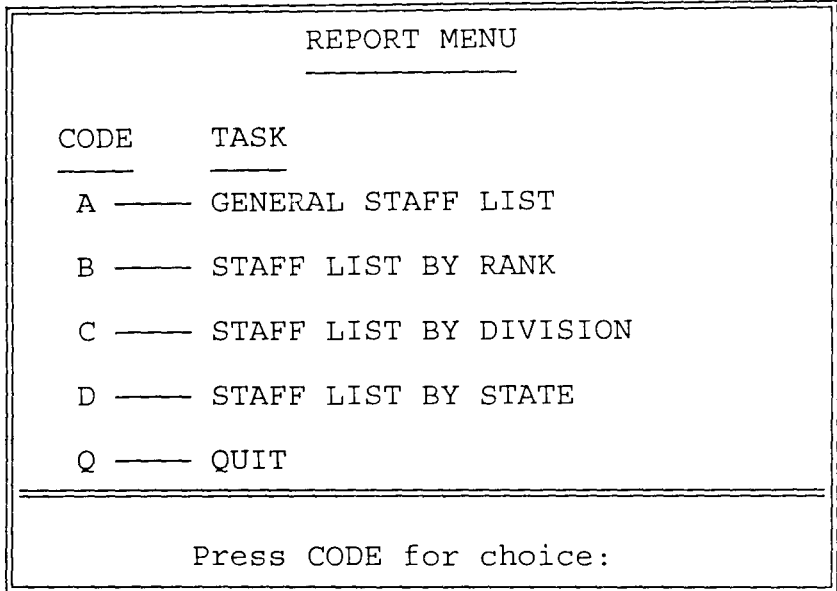


DIAGRAM IV

## APPENDIX B

```
set talk off
set stat off
set scor off
set safe off
set date brit
set proc to npf
do while .t.
  clea
  @ 0,23 to 2,56 doub
  @ 22,23 to 24,55 doub
  @ 4,10 to 24,69 doub
  @ 3,18 to 5,61 doub
  @ 6,30 to 8,49 doub
  @ 1,25 say "NIGERIAN POLICE FORCE - ZONE 7"
  @ 4,19 say " PERSONNEL MANAGEMENT INFORMATION SYSTEMS "
  @ 7,32 say "FIRST LEVEL MENU"
  @ 10,21 say 'CODE'
  @ 10,42 say 'TASK'
  @ 12,22 say 'A'
  @ 12,25 to 12,35
  @ 12,38 say 'PERSONNEL DATA UPDATE'
  @ 14,22 say 'B'
  @ 14,25 to 14,35
  @ 14,38 say 'DATA ENQUIRY'
  @ 16,22 say 'C'
  @ 16,25 to 16,35
  @ 16,38 say 'TRANSFER UPDATE'
  @ 18,22 say 'D'
  @ 18,25 to 18,35
  @ 18,38 say 'REPORT GENERATOR'
  @ 20,22 say 'Q'
  @ 20,25 to 20,35
  @ 20,38 say 'SYSTEMS EXIT'
  @ 23,25 say "PICK OPTION (Press a Code):"
do whil .t.
  choice = space(1)
  @ 23,53 get choice pict '! '
  read
  if choice $ "ABCDQ"
    exit
  endi
```

```
enddo
do case
  case choice = "A"
    do sub1
  case choice = "B"
    do sub2
  case choice = "C"
    do sub4
  case choice = "D"
    do sub3
  otherwise
    exit
endcase
enddo
clea
return
```

#### PROC SUB1

```
do while .t.
  clea
  @ 3,15 to 21,64 doub
  @ 18,23 to 18,56 doub
  @ 4,27 say "PERSONNEL DATA UPDATE MENU"
  @ 5,27 to 5,52 doub
  @ 7,25 say "CODE"
  @ 7,40 say "TASK"
  @ 8,25 to 8,28
  @ 8,40 to 8,43
  @ 9,26 say "A"
  @ 9,30 to 9,34
  @ 9,36 say "NEW STAFF RECORD"
  @ 11,26 say "B"
  @ 11,30 to 11,34
  @ 11,36 say "EDIT STAFF RECORD"
  @ 13,26 say "C"
  @ 13,30 to 13,34
  @ 13,36 say "VIEW STAFF RECORD"
  @ 15,26 say "D"
  @ 15,30 to 15,34
  @ 15,36 say "DELETE STAFF RECORD"
  @ 17,26 say "Q"
  @ 17,30 to 17,34
```

```

@ 17,36 say "QUIT"
@ 20,28 say "Press CODE for choice:"
do while .t.
  choice = space(1)
  @ 20,51 get choice pict '!'
  read
  if choice $ "ABCDQ"
    exit
  endi
enddo
do case
  case choice = "A"
    do prog1
  case choice = "B"
    do prog2
  case choice = "C"
    do prog3
  case choice = "D"
    do prog4
  otherwise
    exit
endcase
enddo
return

```

## PROC SUB2

```

do while .t.
  clea
  @ 3,19 to 21,60 doub
  @ 18,20 to 18,59 doub
  @ 4,30 say "DATA ENQUIRY SCREEN"
  @ 5,30 to 5,48 doub
  @ 7,20 say "ENQUIRY BY:"
  @ 9,30 say "CODE"
  @ 9,45 say "TASK"
  @ 10,30 to 10,33
  @ 10,45 to 10,48
  @ 11,31 say 'A'
  @ 11,45 say 'RANK'
  @ 13,31 say 'B'
  @ 13,45 say 'DIVISION'

```

```

@ 15,31 say 'C'
@ 15,45 say 'STATE'
@ 17,31 say 'Q'
@ 17,45 say 'QUIT'
@ 20,28 say "Press CODE for choice:"
do while .t.
  choice = space(1)
  @ 20,51 get choice pict '!'
  read
if choice $ "ABCDQ"
  exit
endi
enddo
do case
  case choice = "A"
    do enquiry1
  case choice = "B"
    do enquiry2
  case choice = "C"
    do enquiry3
  otherwise
    exit
endcase
enddo
return

```

### PROC SUB3

```

do while .t.
  clea
  @ 2,18 to 20,61 doub
  @ 17,19 to 17,60 doub
  @ 3,34 say 'REPORT MENU'
  @ 4,34 to 4,44
  @ 6,21 say 'CODE'
  @ 6,29 say 'TASK'
  @ 7,21 to 7,24
  @ 7,29 to 7,32
  @ 8,22 say 'A'
  @ 8,24 to 8,27
  @ 8,29 say 'GENERAL STAFF LIST'
  @ 10,22 say 'B'
  @ 10,24 to 10,27

```

```

@ 10,29 say 'STAFF LIST BY RANK'
@ 12,22 say 'C'
@ 12,24 to 12,27
@ 12,29 say 'STAFF LIST BY DIVISION'
@ 14,22 say 'D'
@ 14,24 to 14,27
@ 14,29 say 'STAFF LIST BY STATE'
@ 16,22 say 'Q'
@ 16,24 to 16,27
@ 16,29 say 'QUIT'
@ 19,28 say "Press CODE for choice:"
do while .t.
  choice = space(1)
  @ 19,51 get choice pict '!'
  read
  if choice $ "ABCDQ"
    exit
  endif
enddo
do case
  case choice = "A"
    do report1
  case choice = "B"
    do report2
  case choice = "C"
    do report3
  case choice = "D"
    do report4
  otherwise
    exit
endcase
enddo
return

```

## PROC ENQUIRY1

```

set talk off
set stat off
set date brit
use pers
sort on rcode,empno to pers1.dbf
use
sele a

```



```

use pers1
sele b
  use dept
sele c
  use rank
do while .t.
  clea
  sele c
  go top
  mrcode = ' '
  @ 12,10 say "ENTER RANK CODE (Press 'ENTER KEY' To Exit):" get mrcode
  read
  if mrcode = ' '
    exit
  endi
  loca for mrcode = rcode
  if .not. found()
    @ 20,10 say 'RANK CODE DOES NOT EXIT, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
  endi
  mrdesc = rdesc
  sele a
  go top
  loca for mrcode = rcode
  if .not. found()
    @ 20,10 say 'RANK CODE DOES NOT EXIT, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
  endi
  clea
  @ 0,25 say 'NIGERIAN POLICE FORCE - ZONE 7'
  @ 1,25 to 1,54 doub
  @ 3,29 say 'LIST OF STAFF BY RANK'
  @ 5,0 say 'RANK: ' + mrdesc
  @ 6,0 to 6,79
  @ 7,0 say '|S/NO|EMPLOYEE NO.|"
  @ 7,23 say 'NAME'
  @ 7,47 say '|'"
  @ 7,49 say 'DIVISION'

```

```

@ 8,0 to 8,79
sno = 1
r = 9
sele a
mdcode = dcode
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + init
  mdcode = dcode
  msal = sal
  @ r,0 say '|'
  @ r,1 say sno pict '999'
  @ r,5 say '|'
  @ r,7 say mempno
  @ r,18 say '|'
  @ r,19 say mname
  @ r,47 say '|'
  @ r,48 say mddesc
  @ r,65 say '|'
  skip
  r = r + 1
  sno = sno + 1
  if mrcode <> rcode
    exit
  endi
  if mdcode <> dcode
    mdcode = dcode
    sele b
    go top
    loca for mdcode = dcode
    mddesc = ddesc
    sele a
  endi
endd
wait
clea
endd
close all
clea

```

retu

## PROC ENQUIRY2

```
set talk off
set stat off
set date brit
use pers
sort on dcode,empno to pers1.dbf
use
sele a
  use pers1
sele b
  use dept
sele c
  use rank
do while .t.
  clea
  sele b
  go top
  mdcode = ' '
  @ 12,10 say "ENTER DIVISION CODE (Press 'ENTER KEY' To Exit):" get mdcode
  read
  if mdcode = ' '
    exit
  endi
  loca for mdcode = dcode
  if .not. found()
    @ 20,10 say 'DIVISION CODE DOES NOT EXIT, PRESS ANY KEY'
    set cons off
    wait
    set cons on
    loop
  endi
  mddesc = ddesc
  sele a
  go top
  loca for mdcode = dcode
  if .not. found()
    @ 20,10 say 'DIVISION CODE DOES NOT EXIT, PRESS ANY KEY'
    set cons off
    wait
    set cons on
```

```

loop
endi
clea
@ 0,25 say 'NIGERIAN POLICE FORCE - ZONE 7'
@ 1,25 to 1,54 doub
@ 3,26 say 'LIST OF STAFF BY DIVISION'
@ 5,0 say 'DIVISION: ' + mddesc
@ 6,0 to 6,79
@ 7,0 say '|S/NO|EMPLOYEE NO.|"
@ 7,23 say 'NAME'
@ 7,47 say '|'
@ 7,51 say 'RANK'
@ 8,0 to 8,79
sno = 1
r = 9
sele a
mrcode = rcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + init
  mrcode = rcode
  msal = sal
  @ r,0 say '|'
  @ r,1 say sno pict '999'
  @ r,5 say '|'
  @ r,7 say mempno
  @ r,18 say '|'
  @ r,19 say mname
  @ r,47 say '|'
  @ r,48 say mrdesc
  @ r,65 say '|'
  skip
  r = r + 1
  sno = sno + 1
  if mrcode <> rcode
    exit
  endi
  if mrcode <> rcode
    mrcode = rcode

```

```

    sele c
    go top
    loca for mrcode = rcode
    mrdesc = rdesc
    sele a
  endi
endd
wait
clea
endd
close all
clea
retu

```

### PROC ENQUIRY3

```

set talk off
set stat off
set date brit
use pers
sort on sal to pers1.dbf
use
sele a
  use pers1
sele b
  use dept
sele c
  use rank
do while .t.
  clea
  sele a
  go top
  msal = 0
  @ 12,10 say "ENTER STATE CODE (Press 'ENTER KEY' To Exit): " get mstate
  read
  if mstate = 0
    exit
  endi
  loca for mstate = state
  if .not. found()
    @ 20,21 say 'STATE CODE DOES NOT EXIST, PRESS ANY KEY'
    set cons off
    wait
  
```

```

set cons on
loop
endi
clea
@ 0,25 say 'NIGERIAN POLICE FORCE - ZONE 7'
@ 1,25 to 1,54 doub
@ 3,26 say 'LIST OF STAFF BY STATE'
@ 6,0 to 6,79
@ 7,0 say '| S/NO | EMPLOYEE NO. |'
@ 7,25 say 'SURNAME'
@ 7,43 say '|'
@ 7,46 say 'RANK'
@ 7,65 say '|'
@ 7,63 say 'DIVISION'
@ 7,79 say '|'
@ 8,0 to 8,79
sno = 1
r = 9
sele a
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof()
  mempno = empno
  mname = sname
  mrcode = rcode
  mdcode = dcode
  @ r,0 say '|'
  @ r,2 say sno pict '999'
  @ r,7 say '|'
  @ r,10 say mempno
  @ r,22 say '|'
  @ r,23 say mname
  @ r,43 say '|'
  @ r,44 say mrdesc
  @ r,61 say '|'

```

```

@ r,62 say mddesc
@ r,79 say '|'
skip
r=r+1
sno = sno + 1
if msal < > sal
  exit
endi
if mrcode < > rcode
  mrcode = rcode
  sele c
  go top
  loca for mrcode = rcode
  mrdesc = rdesc
  sele a
endi
if mdcode < > dcode
  mdcode = dcode
  sele b
  go top
  loca for mdcode = dcode
  mddesc = ddesc
  sele a
endi
endd
wait
clea
endd
close all
clea
retu

```

PROC PROG1

```

set talk off
set stat off
set scor off
set safe off
set date brit
use pers
do while .t.
  nowd = date()
  clea

```

```

mempno = spac(9)
@ 0,4 to 24,75 doub
@ 0,26 to 1,53 doub
@ 22,5 to 22,74
@ 0,25 say "NIGERIAN POLICE FORCE - ZONE 7"
@ 1,25 to 1,54 doub
@ 2,28 say "NEW STAFF RECORD SCREEN"
@ 3,28 to 3,50
@ 3,56 say 'DATE:'
@ 3,63 get nowd
clea gets
@ 5,6 say 'EMPLOYEE NUMBER (Press "ENTER" KEY To Exit):'
set colo to n/w
@ 5,51 say 'PP/'
set colo to
@ 5,54 get mempno
read
if mempno = spac(9)
  exit
endi
mempno = 'PP/' + mempno
go top
loca for mempno = empno
if found()
  @ 23,19 say 'STAFF RECORD ALREADY EXIST, PRESS ANY KEY'
  set cons off
  wait
  set cons on
  loop
endi
stor spac(20) to msname, mfname
stor ctod(' / / ') to mdbirth,mdemp
stor spac(30) to mnamekin,maddrkin
mraddr = spac(40)
mstate = spac(12)
mnation = spac(15)
mqual = spac(15)
stor ' ' to msex,mdcode
stor ' ' to mrcode
minit = spac(6)
msal = 0
@ 7,10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'

```



```

@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS:' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN:' get mstate pict '@!'
@ 12,38 say 'NATIONALITY:' get mnation pict '@!'
@ 12,68 say 'SEX:' get msex pict '!'
@ 14,6 say 'DATE OF BIRTH:' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION:' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'RANK CODE'
@ 16,39 say 'DIVISION CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999,999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@ 20,48 say 'ADDRESS'
@ 21,6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
read
@ 23,29 say 'SAVE NEW DATA (Y/N):'
ans = ' '
do whil .t.
  @ 23,50 get ans pict '!'
  read
  if ans = 'Y' .or. ans = 'N'
    exit
  endi
  ans = ' '
endd
if ans = 'Y'
  appe blan
  repl empno with mempno, sname with msname, fname with mfname
  repl init with minit, raddr with mraddr, qual with mqual
  repl dbirth with mdbirth, demp with mdemp, rcode with mrcode
  repl dcode with mdcode, sex with msex, sal with msal
  repl namekin with mnamekin, addrkin with maddrkin
  repl nation with mnation, state with mstate
endi
endd

```

```
clos all
clea
retu
```

## PROC PROG2

```
set talk off
set stat off
set scor off
set safe off
set date brit
use pers
do while .t.
  nowd = date()
  clea
  mempno = spac(9)
  @ 0,4 to 24,75 doub
  @ 0,26 to 1,53 doub
  @ 22,5 to 22,74
  @ 0,25 say "NIGERIAN POLICE FORCE - ZONE 7"
  @ 1,25 to 1,54 doub
  @ 2,29 say "UPDATING STAFF RECORD"
  @ 3,29 to 3,49
  @ 3,56 say 'DATE:'
  @ 3,63 get nowd
  clea gets
  @ 5,6 say 'EMPLOYEE NUMBER (Press "ENTER" KEY To Exit):'
  set colo to n/w
  @ 5,51 say 'PP/'
  set colo to
  @ 5,54 get mempno
  read
  if mempno = spac(9)
    exit
  endi
  mempno = 'PP/' + mempno
  go top
  loca for mempno = empno
  if .not. found()
    @ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS ANY KEY'
    set cons off
    wait
    set cons on
```

```

loop
endi
msname = sname
mfname = fname
mdbirth = dbirth
mdemp = demp
mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode
minit = init
msal = sal
@ 7,10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS:' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN:' get mstate pict '@!'
@ 12,38 say 'NATIONALITY:' get mnation pict '@!'
@ 12,68 say 'SEX:' get msex pict '!'
@ 14,6 say 'DATE OF BIRTH:' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION:' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'RANK CODE'
@ 16,39 say 'DIVISION CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999,999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@ 20,48 say 'ADDRESS'
@ 21,6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
read

```

```

@ 23,28 say 'REPLACE DATA (Y/N):'
ans = ' '
do while .t.
  @ 23,49 get ans pict '!'
  read
  if ans = 'Y' .or. ans = 'N'
    exit
  endi
  ans = ' '
endd
if ans = 'Y'
  repl empno with mempno,sname with msname,fname with mfname
  repl init with minit,raddr with mraddr,qual with mqual
  repl dbirth with mdbirth,demp with mdemp,rcode with mrcode
  repl dcode with mdcode,sex with msex,sal with msal
  repl namekin with mnamekin,addrkin with maddrkin
  repl nation with mnation,state with mstate
  endi
endd
clos all
clea
retu

```

### PROC PROG3

```

set talk off
set stat off
set scor off
set safe off
set date brit
use pers
do while .t.
  nowd = date()
  clea
  mempno = spac(9)
  @ 0,4 to 24,75 doub
  @ 0,26 to 1,53 doub
  @ 22,5 to 22,74
  @ 0,25 say "NIGERIAN POLICE FORCE - ZONE 7"
  @ 1,25 to 1,54 doub
  @ 2,30 say "VIEWING STAFF RECORD"
  @ 3,30 to 3,49
  @ 3,56 say 'DATE:'

```

```

@ 3,63 get nowd
clea gets
@ 5,6 say 'EMPLOYEE NUMBER (Press "ENTER" KEY To Exit):'
set colo to n/w
@ 5,51 say 'PP/'
set colo to
@ 5,54 get mempno
read
if mempno = spac(9)
  exit
endi
mempno = 'PP/' + mempno
go top
loca for mempno = empno
if .not. found()
  @ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS ANY KEY'
  set cons off
  wait
  set cons on
  loop
endi
msname = sname
mfname = fname
mdbirth = dbirth
mdemp = demp
mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode
minit = init
msal = sal
@ 7,10 say 'SURNAME'
@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS:' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN:' get mstate pict '@!'

```

```

@ 0,26 to 1,53 doub
@ 22,5 to 22,74
@ 0,25 say "NIGERIAN POLICE FORCE - ZONE 7"
@ 1,25 to 1,54 doub
@ 2,29 say "DELETING STAFF RECORD"
@ 3,29 to 3,49
@ 3,56 say 'DATE:'
@ 3,63 get nowd
clea gets
@ 5,6 say 'EMPLOYEE NUMBER (Press "ENTER" KEY To Exit):'
set colo to n/w
@ 5,51 say 'PP/'
set colo to
@ 5,54 get mempno
read
if mempno = spac(9)
  exit
endi
mempno = 'PP/' + mempno
go top
loca for mempno = empno
if .not. found()
  @ 23,17 say 'INVALID EMPLOYEE NUMBER, PRESS ANY KEY'
  set cons off
  wait
  set cons on
  loop
endi
msname = sname
mfname = fname
mdbirth = dbirth
mdemp = demp
mnamekin = namekin
maddrkin = addrkin
mraddr = raddr
mstate = state
mnation = nation
mqual = qual
msex = sex
mdcode = dcode
mrcode = rcode
minit = init
msal = sal
@ 7,10 say 'SURNAME'

```

```

@ 7,36 say 'FIRST NAME'
@ 7,60 say 'INITIALS'
@ 8,6 get msname pict '@!'
@ 8,33 get mfname pict '@!'
@ 8,61 get minit pict '@!'
@ 10,6 say 'RESIDENTIAL ADDRESS:' get mraddr pict '@!'
@ 12,6 say 'STATE OF ORIGIN:' get mstate pict '@!'
@ 12,38 say 'NATIONALITY:' get mnation pict '@!'
@ 12,68 say 'SEX:' get msex pict '!
@ 14,6 say 'DATE OF BIRTH:' get mdbirth
@ 14,32 say 'EDUCATIONAL QUALIFICATION:' get mqual pict '@!'
@ 16,6 say 'DATE OF EMPLOYMENT'
@ 16,27 say 'RANK CODE'
@ 16,39 say 'DIVISION CODE'
@ 16,57 say 'ANNUAL SALARY'
@ 17,8 get mdemp
@ 17,30 get mrcode
@ 17,46 get mdcode
@ 17,57 say '#'
@ 17,58 get msal pict '9,999,999.99'
@ 19,6 say 'DETAILS OF NEXT OF KIN'
@ 20,15 say 'NAME'
@ 20,48 say 'ADDRESS'
@ 21,6 get mnamekin pict '@!'
@ 21,40 get maddrkin pict '@!'
clea gets
@ 23,28 say 'DELETE RECORD (Y/N):'
ans = ' '
do while .t.
    @ 23,49 get ans pict '!
    read
    if ans = 'Y' .or. ans = 'N'
        exit
    endi
    ans = ' '
endd
if ans = 'Y'
    dele
    pack
    @ 23,17 say 'RECORD IS DELETED, PRESS ANY KEY TO CONTINUE'
else
    @ 23,16 say 'RECORD IS NOT DELETED, PRESS ANY KEY TO CONTINUE'
endi
set cons off

```

```
wait
set cons on
endd
clos all
clea
retu
```

## PROC REPORT1

```
set talk off
set stat off
set date brit
use pers
sort on rcode/d,empno to pers1.dbf
use
sele a
  use pers1
sele b
  use dept
sele c
  use rank
set devi to prin
@ 1,51 say "NIGERIAN POLICE FORCE - ZONE 7"
@ 2,51 SAY REPL('=',30)
@ 4,55 say 'GENERAL LIST OF STAFF'
@ 5,55 say repl('=',21)
@ 7,1 say repl('-',132)
@ 8,1 say '| S/NO | EMPLOYEE NO. |'
@ 8,25 say '  NAME'
@ 8,64 say '| '
@ 8,68 say 'RANK'
@ 8,82 say '| ANNUAL SALARY | DATE OF EMPL. |'
@ 8,117 say 'DIVISION'
@ 8,132 say '| '
@ 9,1 say repl('-',132)
sno = 1
r = 10
sele a
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode = rcode
```



```

mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + rtrim(fname)
  mrcode = rcode
  mdcode = dcode
  msal = sal
  mdemp = demp
  @ r,1 say '|'
  @ r,4 say sno pict '999'
  @ r,8 say '|'
  @ r,11 say mempno
  @ r,23 say '|'
  @ r,24 say mname
  @ r,64 say '|'
  @ r,65 say mrdesc
  @ r,82 say '|'
  @ r,85 say msal pict '9,999,999.99'
  @ r,98 say '|'
  @ r,102 say mdemp
  @ r,114 say '|'
  @ r,115 say mddesc
  @ r,132 say '|'
  skip
  r=r+1
  sno = sno + 1
  if mrcode <> rcode
    mrcode = rcode
    sele c
    go top
    loca for mrcode = rcode
    mrdesc = rdesc
    sele a
  endi
  if mdcode <> dcode
    mdcode = dcode
    sele b
    go top
    loca for mdcode = dcode

```

```

    mddesc = ddesc
    sele a
    endi
endd
r=r+1
@ r,1 say repl('-',132)
ejec
set devi to scre
close all
clea
retu

```

## PROC REPORT2

```

set talk off
set stat off
set date brit
use pers
sort on rcode/d,empno to pers1.dbf
use
sele a
    use pers1
sele b
    use dept
sele c
    use rank
set devi to prin
@ 1,51 say "NIGERIAN POLICE FORCE - ZONE 7"
@ 2,51 SAY REPL('= ',30)
@ 4,56 say 'STAFF LIST BY RANK'
@ 5,56 say repl('= ',20)
@ 7,8 say repl('-',116)
@ 8,8 say '| S/NO | EMPLOYEE NO. |'
@ 8,31 say '  NAME'
@ 8,71 say '| '
@ 8,74 say 'RANK'
@ 8,89 say '| ANNUAL SALARY |'
@ 8,106 say 'DIVISION'
@ 8,123 say '| '
@ 9,8 say repl('-',116)
sno = 1
r = 10
sele a

```

```

mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + rtrim(fname)
  mrcode = rcode
  mdcode = dcode
  msal = sal
  @ r,8 say '|'
  @ r,12 say sno pict '999'
  @ r,15 say '|'
  @ r,18 say mempno
  @ r,30 say '|'
  @ r,31 say mname
  @ r,71 say '|'
  @ r,72 say mrdesc
  @ r,89 say '|'
  @ r,92 say msal pict '9,999,999.99'
  @ r,105 say '|'
  @ r,106 say mddesc
  @ r,123 say '|'
  skip
  r = r + 1
  sno = sno + 1
  if rcode = '01' .or. rcode = '02' .or. rcode = '03' .or. rcode = '04' .or. rcode = '05'
    exit
  endi
  if mrcode <> rcode
    mrcode = rcode
    sele c
    go top
    loca for mrcode = rcode
    mrdesc = rdesc
    sele a
  endi

```

```

if mcode < > dcode
  mcode = dcode
  sele b
  go top
  loca for mcode = dcode
  mddesc = ddesc
  sele a
endi
endd
@ r,8 say repl('-',116)
ejec
set devi to scre
close all
clea
retu

```

### PROC REPORT3

```

set talk off
set stat off
set date brit
use pers
sort on rcode/d,empno to pers1.dbf
use
sele a
  use pers1
sele b
  use dept
sele c
  use rank
set devi to prin
@ 1,51 say "NIGERIAN POLICE FORCE - ZONE 7"
@ 2,51 SAY REPL('=',30)
@ 4,56 say 'STAFF LIST BY DIVISION'
@ 5,56 say repl('=',20)
@ 7,8 say repl('-',116)
@ 8,8 say '| S/NO | EMPLOYEE NO. |'
@ 8,31 say '  NAME'
@ 8,71 say '| '
@ 8,74 say 'RANK'
@ 8,89 say '| ANNUAL SALARY |'
@ 8,106 say 'STATE'
@ 8,123 say '| '

```

```

@ 9,8 say repl('-',116)
sno = 1
r = 10
sele a
loca for rcode = '01' .or. rcode = '02' .or. rcode = '03' .or. rcode = '04' .or.
rcode = '05'
mrcode = rcode
mdcode = dcode
sele c
go top
loca for mrcode = rcode
mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + rtrim(fname)
  mrcode = rcode
  mdcode = dcode
  msal = sal
  @ r,8 say '|'
  @ r,12 say sno pict '999'
  @ r,15 say '|'
  @ r,18 say mempno
  @ r,30 say '|'
  @ r,31 say mname
  @ r,71 say '|'
  @ r,72 say mrdesc
  @ r,89 say '|'
  @ r,92 say msal pict '9,999,999.99'
  @ r,105 say '|'
  @ r,106 say mddesc
  @ r,123 say '|'
  skip
  r = r + 1
  sno = sno + 1
  if mrcode <> rcode
    mrcode = rcode
    sele c
    go top
    loca for mrcode = rcode

```

```

    mrdesc = rdesc
    sele a
endi
if mdcode < > dcode
    mdcode = dcode
    sele b
    go top
    loca for mdcode = dcode
    mddesc = ddesc
    sele a
endi
endd
@ r,8 say repl('-',116)
ejec
set devi to scre
close all
clea
retu

```

#### PROC REPORT4

```

set talk off
set stat off
set date brit
use pers
sort on rcode/d,empno to pers1.dbf
use
sele a
    use pers1
sele b
    use dept
sele c
    use rank
set devi to prin
    @ 1,51 say "NIGERIAN POLICE FORCE - ZONE 7"
    @ 2,51 SAY REPL('=',30)
@ 4,54 say 'STAFF LIST BASED ON RANK'
@ 5,54 say repl('=',24)
sele a
mrcline = rcode
mdcline = dcode
sele c
go top

```

```

loca for mrcode = rcode
mrdesc = rdesc
sele b
go top
loca for mdcode = dcode
mddesc = ddesc
@ 7,17 say 'STAFF LIST BY STATE'
@ 8,17 say repl('-',98)
@ 9,17 say '| S/NO | EMPLOYEE NO. |'
@ 9,44 say '  NAME'
@ 9,80 say '|'
@ 9,83 say 'DIVISION'
@ 9,98 say '| ANNUAL SALARY |'
@ 10,17 say repl('-',98)
sno = 1
r = 11
sele a
do while .not. eof()
  mempno = empno
  mname = rtrim(sname) + ' ' + rtrim(fname)
  mrcode = rcode
  mdcode = dcode
  msal = sal
  @ r,17 say '|'
  @ r,19 say sno pict '9999'
  @ r,24 say '|'
  @ r,27 say mempno
  @ r,39 say '|'
  @ r,40 say mname
  @ r,80 say '|'
  @ r,81 say mddesc
  @ r,98 say '|'
  @ r,101 say msal pict '9,999,999.99'
  @ r,114 say '|'
  skip
  r=r+1
  sno = sno + 1
  if eof()
    exit
  endi
  if mrcode < > rcode
    @ r,17 say repl('-',98)
    mrcode = rcode
  sele c

```

```

go top
loca for mrcode = rcode
mrdesc = rdsc
r = r + 3
@ r,17 say 'RANK: ' + mrdesc
r = r + 1
@ r,17 say repl('-',98)
r = r + 1
@ r,17 say '| S/NO | EMPLOYEE NO. |'
@ r,44 say '  NAME'
@ r,80 say '| '
@ r,83 say 'DEPARTMENT'
@ r,98 say '| ANNUAL SALARY |'
r = r + 1
@ r,17 say repl('-',98)
r = r + 1
sno = 1
sele a
endi
if mdcode < > dcode
  mdcode = dcode
  sele b
  go top
  loca for mdcode = dcode
  mddesc = ddsc
  sele a
endi
endd
@ r,17 say repl('-',98)
ejec
set devi to scre
close all
clea
retu

```