Government Girls' Polytechnic, Bilaspur

Name of the Lab: **DBMS Lab**

Practical **: DBMS- 1 Lab**

Class**: 3rd Semester (CSE)**

Teachers Assessment: 20 End Semester Examination: 50

EXPERIMENT NO.1

Objective: To create database file for some common operation.
(a) Create (b) list (c) append(d) close (e) quit.

Hardware and system software requirement: Extended Version 80386 processor,
2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: Creating a database file implies designing and defining the structure to store some specific information. A computer cannot distinguish information by looking at its contents. For example , it cannot tell whether "Ravi" is a person or an address.Therefore, to assist the computer and foxpro , store the actual information in a database file, foxpro about the structure of the datdase file. The structure defines how the information will be stored in that database file that is how many fields are there in the file and what information is stored in each field. The structure also limit the length of data stored in each field.So,to create a database file to first specify its structure.

Program input and output:

(a) CREATE : The CREATE command to create a new databasefile.

```
CREATE ADDRESS
CREATE A: ADDRESS
CREATE D:\MYFILES\ADDRESS
```

ADDRESS database file

NAME	LOCALITY	CITY	PIN
Ragini Sharma	B-123, sarojini Nagar	New Delhi	110021
Vinod Anand	D4/6, Model Town	Delhi	110009

Amit kumar J-31, South Extension New Delhi 110049
Rohit Malik 92, Munirka New Delhi 110067

(b) LIST : The LIST command to display the all list of the record.

```
LIST
LIST FIELDS NAME , CITY
```

Record #	NAME	CITY
1	Ragini Sharma	New Delhi
2	Vinod Anand	Delhi
3	Amit kumar	New Delhi
4	Rohit Malik	New Delhi

(c) APPEND : The APPEND command through add records to database file.

```
USE <FILE NAME 1>
APPEND FROM <FILE NAME 2>
```

- USE ADDRESS, and foxpro displays the following detail in the status bar.
  I<c:I ADDRESS I Exclusive I Rec: ¼ I Ins I Caps

Additional address for ADDRESS database file

NAME	LOCALITY	CITY	PIN
Rajagopalan	6/4, Shanti Nagar	New Delhi	110021
Krishanan	A-42, Mayapuri	New Delhi	110064
Amita kumari	J-31, South Extension	New Delhi	110049
Rima Malik	92, Munirka	New Delhi	110067

(d) CLOSE : The CLOSE command use closed the database file.

```
CLOSE DATABASES
CLOSE ALL
```

(e) QUIT: These command through exit the database file.

```
QUIT
```

Observation: The Database command has successfully executed.

EXPERIMENT NO.2

Objective: To using viewing and editing data for following commands
(a) DISPLAY (B) LIST (C) LOCATE (D) EDIT (E) CHANGE(F)BROWSE(G)REPLCE(H) DELETE (I) RECALL (J) PACK

Hardware and system software requirement: Extended Version 80386 processor,
2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: The DISPLAY command is quite similar to LIST . It can not only display all/selected fields from all/selected records, also perfrom calculations on numeric data and display the results with DISPLAY or LIST.
LOCATE and CONTINUE commands are used to search for a specific information in any field of a database.To edit in any record, the EDIT or CHANGE commands can be used.The BROWSE command displays several records. Also add a new record with BROWSE , EDIT and CHANGE.

Program input and output:

(A) DISPLAY : The DISPLAY command displaying records of a database file.

DISPLAY NEXT 4

Record#	NAME	LOCALITY	CITY	PIN
4	Rohit Malik	92, Munirka	New Delhi	110067
5	Rajagopalan	6/4, Shanti Nagar	New Delhi	110021
6	Krishanan	A-42, Mayapuri	New Delhi	110064
7	Amita kumari	J-31, South Extension	New Delhi	110049

(B) LIST : The list command to display the list of all records.

USE LIST
LIST

Record#	NAME	LOCALITY	CITY	PIN
1	Ragini Sharma	B-123, sarojini Nagar	New Delhi	110021
2	Vinod Anand	D4/6, Model Town	Delhi	110009
3	Amit kumar	J-31, South Extension	New Delhi	110049

4	Rohit Malik	92, Munirka	New Delhi	110067
5	Rajagopalan	6/4, Shanti Nagar	New Delhi	110021
6	Krishanan	A-42, Mayapuri	New Delhi	110064
7	Amita kumari	J-31, South Extension	New Delhi	110049

(C) LOCATE : It display find the record with a particular charactersticts.

LOCATE FOR NAME =”Raj”

Record#	NAME	LOCALITY	CITY	PIN
5	Rajagopalan	6/4, Shanti Nagar	New Delhi	110021

(D) EDIT : Displaying exiting data in a record an allow to change it contains.

```
EDIT
EDIT FIELD NAME, CITY
```

(E) CHANGE : To change a specific field in a database file.

```
USE ADDRESS
CHANGE FIELD NAME, CITY
```

(F) BROWSE: Display a “Screen full” of the database and allow us to scan and make changes to the database.

```
USE ADDRESS
BROWSE FIELD NAME, CITY
```

(G) REPLACE: Changes the current contains of a field with new data.

```
USE STUDENT
REPLACE MARKS WITH MARKS-1 ALL
```

(H) DELETE : To remove the record in database file.

```
DELETE
DELETE ALL
```

(I) RECALL : Brings back a record marked for deletion.

```
RECALL
RECALL NEXT 2
RECALL REST
RECALL ALL
```

(J) PACK : Permanently deletes records marked for deletion from the database.

PACK

Observation: The Database command has successfully executed.

EXPERIMENT NO:3

Objective: To create a database ADDRESS.DBF using indexing and sorting command.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: Sorting information means to group , arrange or classify the information in same

Known order. Sorting helps us in locating the information quickly.For example-

Dictionary . In dictionary thousands of words are arranged in alphabetic order .

Similary the telephone directory also has the names of subscriber arranged

In alphabetic order.

Indexing a database creates an index file. The index file is almost

Similar to the index used at the end of a book use the index of a book to locate

The page number where particular topic is discussed.The index file helps to locate

Where a particular record is available in the database file.

Program input and output:

SORT command for sorting record stored in a database file.

```
USE ADDRESS
SORT ON NAME/D TO NAME_DES
USE NAME_DES
LIST FIELD NAME, CITY
```

Record #	NAME	CITY
1	Vinod Anand	Delhi
2	Rohit Malik	New Delhi
3	Ragini Sharma	New Delhi
4	Amit kumar	Kochi

INDEX file has to locate where a particular record is available in the database file.

```
                                    USE  ADDRESS
                                    INDEX ON  NAME  TO NAME_IND

                  Record#          NAME              LOCALITY
CITY              PIN
                        3          Amit kumar        J-31, South Extension
Kochi             682584
                        1          Ragini  Sharma    B-123, sarojini Nagar
New  Delhi        110021
                        4          Rohit Malik       92, Munirka
New  Delhi        110067
                        2          Vinod  Anand      D4/6, Model Town
Delhi             110009
```

Observation: The Database command has successfully executed.

EXPERIMENT NO.4

Objective: Practical on TIME& DATE Function and commands.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory : FoxPro allows to store any data in the RAM (Random Access Memory) of the PC.

In all store up to 256 different data items.The data item stored in RAM are called

Memory variables. A memory variable name can be up to 10 characters long.

It should begin with a letter and the following characters can be letters , numerals

Or the underscore character(_).Cannot use spaces and punctuation marks in memory

Variables name.

Memory variables play a very important role in FoxPro programming.

Store the data entered by the user in memory variable,validate the, process the data

(e.g.calculate square root).Finally ,when the data has been validated and processed

Store it in the database file.FoxPro provide several functions for manipulation of TIME

And DATE.

Program input and output:

(A) TIME( ): It diaplay the current system time.

```
? TIME( )
15:48:32
```

(B) SECOND( ) AND SYS(2) : These two identical function returns the number of seconds.

```
?SECONDS( )
      42567.227
?SYS(2)
      42575
```

(C) DATE( ): The DATE( ) function returns the DOS system.

```
? DATE( )
```

23/06/95

(D) SET CENTURY ON/OFF: These command determines whether or not foxpro displays

The century portion of date expressions.

? DATE( )

23/06/95

SET CENTURY ON

? DATE( )

23/06/1995

SET CENTURY OFF

? DATE( )

23/06/95

(E) SET MARK TO : These command specifies a delimiter to used in the display of date

Expression.

SET MARK TO "-"

? DATE( )

23-06-95

SET MARK TO

(F) DAY( ) : Displays the DAY of the month for a DATE datatype as a number.

STORE DATE() TO CURRENT

23/06/95

?DAY(CURRENT)

23

(G) MONTH( ) : These function retrieves the numeric value of the month from any

DATE expression.

? MONTH (CURRENT)

6

(H) CMONTH( ) : Its returns the name of month (as expression) from any

DATE expression.

? CMONTH (CURRENT)

June

(I) YEAR ( ): These function returns the numeric year from a date expression.

?YEAR(CURRENT)

1995
?YEAR({12/06/96})
1996

(J) DOW( ): The DOW( ) (Day Of Week) function returns a number corresponding to
A day of week from the specified date type expression.
? DOW (CURRENT)
6

(K) COW( ): The COW( ) (Character of Week) function returns the name of a day from
The specified date – type expression.
? COW(CURRENT)
Friday

Observation: The Database command and function has successfully executed.

EXPERIMENT NO.5

Objective: To study of Function Keys.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: Keyboard has a set of 10 or 12 function key. These are marked F1 through F10(or F12).

These keys are programmable for performing various tasks such entering frequently used

Command ,functions or text.for example use function keys for entering common command

Such as LIST, DISPLAY , MEMORY, DISPLAY STATUS,APPEND,etc.

Also use a function key to enter frequently used name of a

Person or city.Start Foxpro ,it assigns commonly used commands to the various function.

FUNCTION KEY	ASSIGNMENT
F1	HELP
F2	SET
F3	LIST
F4	DIR
F5	DISPLAY STRUCTURE
F6	DISPLAY STATUS
F7	DISPLAY MEMORY
F8	DISPLAY
F9	APPEND
F10	INVOKES MENU

EXPERIMENT NO.6

Objective: Practical on Mathematical Function.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: Foxpro supports several arithmetic operation, such as addition ,substraction,division,

Multiplication and exponentiation. These operations on any numeric expression, such

As a field,variable or a combination of these.The results of arithmetic operations can be

Displayed on the screen,stored in a variable or field,etc.

We shall discuss a few mathematical commands and functions.

Program input and output:

1. SQRT( ): Its returns the square root of a positive numeric expression.

```
? SQRT( 49)
  7.00
```

Returns the common logarithm (to base 10).

```
?LOG( 100)
 4.61
? LOG10(100)
  2.00
```

3. INT ( ), FLOOR( ) AND CEILING ( ):

Its returns the integer part of a numeric expression.

```
NUM = 1234.5621
? INT(NUM)
1234
```

Its returns the nearest integer that is less than or equal.

```
?FLOOR(NUM)
1234
```

Its returns the nearest integer that is greater than or equal.

```
? CEILING (NUM)
  1235
```

4 .ABS( ) : These function returns the absolute value of a numeric expression.

```
? ABS(-124.45 )
  124.45
? ABS (NUM)
  1234.5621
```

5. MIN ( ) : These function returns is the expression with the lowest value.

```
? MIN(12, 15, 9 )
  9
```

6. MAX ( ): These function returns the expression with the highest value.

```
? MAX(12,15,9)
  15
```

7. MOD ( ) AND %: The MOD( ) function returns the remainder from a division of two

Number.

```
? MOD( 1965,100)
 65
```

The modulus operator to get the remainder from a division of

Two number expression.

```
? 1965%100
 65
```

8.EXP( ) : It returns the value of e^n.

```
? EXP(1)
 2.72
```

9.SIGN ( ) : Its returns the numeric value of 1, -1,or 0 depending of the sign of numeric

Expression.

```
STORE 0 TO MARKS
? SIGN (MARKS)
   0
? SIGN (20.3)
```

1
? SIGN(-12.34)
-1

10. LEN ( ) : LEN( ) returns the length of a specified character expression.

CH = “RAJAN”
? LEN(CH)
5

Observation: The Database function has successfully executed.

EXPERIMENT NO.7

Objective: Write a program to using DO WHILE.....END DO.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory: DO WHILE – END DO is very powerful and flexiable set of commands.This is used

To execute a set of commands repeatelly .A set of commands repeatedly through

A concept called looping . A set of command is specified between DO WHILE and

END DO and a condition is specified with DO WHILE .foxpro continues to execute the

Command listed between DO WHILE and END DO as long as the condition specified with

DO WHILE is true.

Program input and output:

```
STORE 100 TO NUMBER
DO WHILE NUMBER <111
? LOG(NUMBER)
NUMBER = NUMBER + 1
ENDDO
```

OUTPUT:-

```
?LOG(100)
  2.000
?LOG(101)
  2.004
?LOG(102)
  2.008
?LOG(103)
   2.012
 ?LOG(104)
   2.017
 ?LOG(105)
   2.021
 ?LOG(106)
   2.025
 ?LOG(107)
   2.029
```

?LOG(108)
2.033
?LOG(109)
2.037
?LOG(110)
2.041

Observation: The Database program has successfully executed.

EXPERIMENT NO.8

Objective: Write a program to maintain the ADDRESS.DBF database file.

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory : The DO CASE-ENDCASE structure allows to select one set of commands from several

Alternatives. Use DO CASE-ENDCASE in a program that maintains ADDRESS. Dbf

The program displays a list of options on the screen and prompt the user to select

An option .Depending on the option number entered by the user, DO CASE-ENDCASE

Executes the corresponding commands by selecting the appropriate case.

Program input and output:

```
USE ADDRESS
SET TALK OFF
CLEAR
? " Program to maintain the ADDRESS.dbf database file"
?
? "1   Edit a specific records"
? "2   Pack the deleted records"
? "3   Add new records"
? "4   Display record"
? "5   Quit foxpro"
?
INPUT " Enter your choice ..." TO OPTION
DO CASE
      CASE OPTION = 1
            INPUT "Enter record to be edited ...." TO
REC_NUM
            EDIT REC_NUM

      CASE OPTION = 2
      PACK

      CASE OPTION = 3
          APPEND
```

```
            CASE   OPTION  =  4
                DISPLAY  ALL
                 WAIT WINDOW

            CASE OPTION  =  5
                   QUIT
        ENDCASE
        CLEAR
        CLOSE DATABSE
```

OUTPUT:-

" Enter your choice....."

Observation: The Database program has successfully executed.

EXPERIMENT NO.9

Objective: To create Relation Database through following commands.
(A) UPDATE (B) APPEND FROM (C) COPY TO

Hardware and system software requirement: Extended Version 80386 processor,
2-3 ram and window

Software requirement : operating system DOS,Windows, unix

Theory :Most of practical database application are efficiently managed with multiple database file.

That is, the data to be stored in a database file is divided into more than one database file

This makes the database files small and modular and leads to modular and efficient

Program file.It also results in reduced disk space requirements.

After set the relation.move the record pointer to a recordWith a given code in the

parent file (DEPOSITS.bdf),the record pointer in the child(MASTER.dbf) automatically moves

to the record with the same code.

Program input and output: (A) UPDATE COMMMAND

```
SELECT  1
USE MASTER ORDER CODE
SELECT  2
USE DEPOSITS ORDER CODE

SELECT 1
UPDATE ON CODE  FROM DEPOSITS REPLACE
GR_DEPOSIT WITH GR_DEPOSIT
+ DEPOSIT ->AMOUNT
LIST  FIELDS CODE,NAME,GR_DEPOSIT
```

OUTPUT

Record#	CODE	NAME	GR_DEPOSIT
1	1200	A K Arora	0
2	1250	G K Deb	10000
3	1251	S Srikant	8000
4	1260	Ragini Sharma	15000

(B) APPEND FROM

```
USE MASTER
APPEND FROM  A:MASTER1
```

APPEND FROM 1 FOR PIN=”110021” .OR. CODE> “1300”

OUTPUT

CODE	NAME	ADDRESS	CITY	PIN
1260	Ragini Sharma	B-123, sarojini Nagar	New Delhi	110021

(C) COPY TO

```
USE MASTER
COPY  TO A:SAMPLE
COPY  TO MASTER2 FOR CODE<”1260”
COPY  TO MASTER3 FILED CODE,NAME,ADDRESS
```

OUTPUT

CODE	NAME	ADDRESS
1200	A K Arora	17 , IIT Campus
1250	G K Deb	12, New Market
1251	S Srikant	12B ,Pahar Ganj

Observation: The Database command has successfully executed.

EXPERIMENT NO.10

Objective: Practical on realational database using following commands .

(a) @ (b) @...GET (c) @...EDIT

Hardware and system software requirement: Extended Version 80386 processor,

2-3 ram and window

Software requirement: operating system DOS,Windows, unix

Theory : To enabal the user to design a custom screen for a database file , foxpro provides a very

Powerful screen builder (CREATE SCREEN) . position any field or variable any where

On the screen . beside can also crate cheak boxes , push buttons, radio buttons in the screen

The sceen builders automatically generates a screen file (.SPR) that can be used to edit data

In any record of the database file.

Program input and output: (a) @ command: This command use to display any kind of data such as a

Field ,memory variable of array result of function.

```
USE  ADDRESS
@ 12,5 SAY  NAME
```

OUTPUT

```
NAME
A K Arora
G K  Deb
S Srikant
Ragini   Sharma
```

(b) @...GET Command: This command used to input data field ,memory variable or array

Element.

```
CLEAR
STORE  10 TO NUM1,NUM2,NUM3
@ 5,0 SAY “First Number: “ GET NUM1
@ 7,0  SAY “Second  Number:” GET NUM2
@ 9,0 SAY “Third Number :“ GET NUM3
```

OUTPUT

- Now enter READ
  First Number : 10
  Second Number : 10
  Third Number : 10

(c) @...EDIT Command: This command can be use only with the charater field or variable
Or a memo field.

```
USE LIBRARY
 @ 5,6 EDIT ABSTRACT SIZE 3,20
```

OUTPUT

```
The book emphasies
Learning by doing.
This helps you to
```

Observation:
The Database command has successfully executed.