

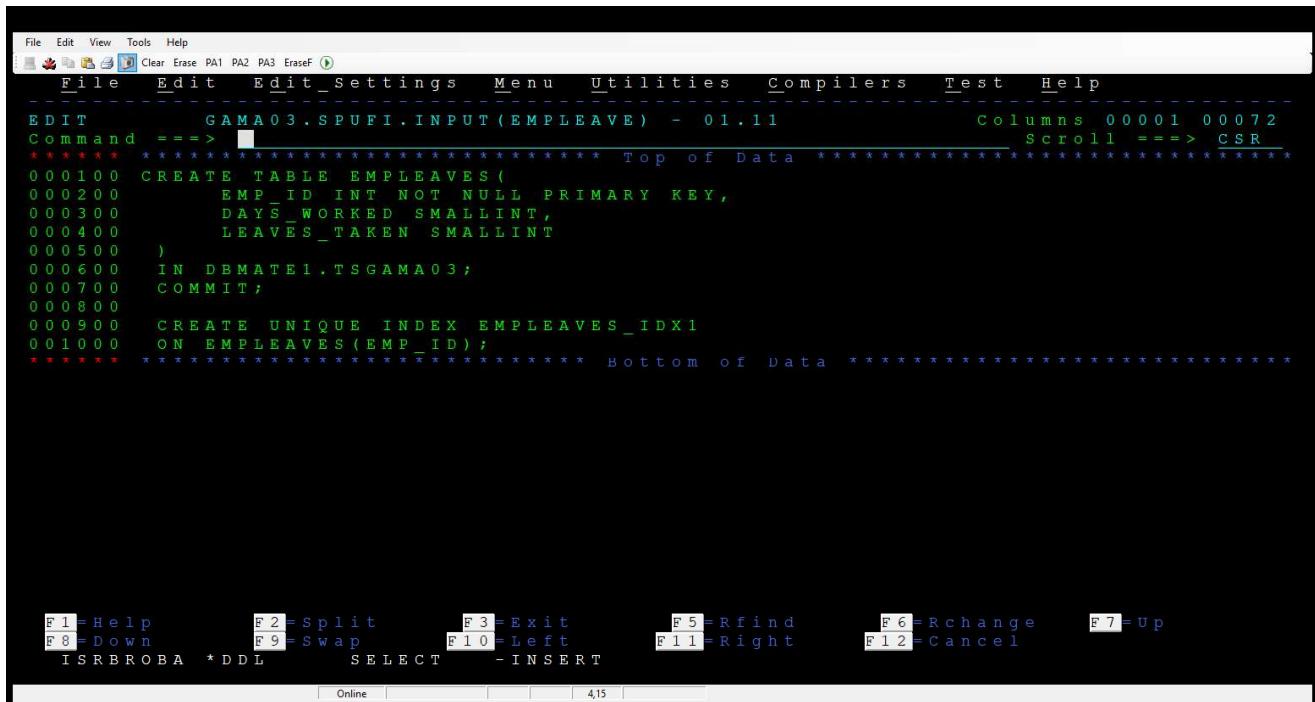
TEAMWARE SOLUTIONS

Mainframe Development Assignment – Creating a table and displaying the report.

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Assignment questions:

1. Create a table:



The screenshot shows a Mainframe terminal window with the following details:

- Title Bar:** File Edit View Tools Help
- Sub-Title Bar:** EDIT GAMA03.SPUFI.INPUT(EMPLEAVE) - 01.11 Columns 00001 00072 Scroll ==> CSR
- Text Area:** The terminal displays DCL commands to create a table named 'EMPLEAVES'. The commands are:

```
000100 CREATE TABLE EMPLEAVES(
000200     EMP_ID INT NOT NULL PRIMARY KEY,
000300     DAYS_WORKED SMALLINT,
000400     LEAVES_TAKEN SMALLINT
000500 )
000600 IN DBMATE1.TSGAMA03;
000700 COMMIT;
000800
000900 CREATE UNIQUE INDEX EMPLEAVES_IDX1
001000 ON EMPLEAVES(EMP_ID);
```
- Bottom of Data:** Bottom of Data
- Function Key Legend:** F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel
- Status Bar:** ISRBRBABA * DDL SELECT - INSERT Online 415

The screenshot shows the IS-RBROB DDL tool interface. The menu bar includes File, Edit, View, Tools, Help, Clear, Erase, PA1, PA2, PA3, EraseF, and a toolbar with icons for file operations. The main window displays SQL commands for creating a table:

```

File Edit View Tools Help
Menu Utilities Compilers Help
BROWSE GAMA03.SPUFI.OUT
Command ==> [ ] Line 00000000 Col 001 080
***** * * * * * Top of Data ***** * * * * *
DROP TABLE EMPLEAVES;
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0
CREATE TABLE EMPLEAVES (
    EMP_ID INT NOT NULL PRIMARY KEY,
    DAYS_WORKED SMALLINT,
    LEAVES_TAKEN SMALLINT
)
IN DBMATE1.TSGAMA03;
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0
COMMIT;
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0
CREATE UNIQUE INDEX EMPLEAVES_IDX1
ON EMPLEAVES(EMP_ID);
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel
* ISRBROB DDL SELECT - INSERT

```

The status bar at the bottom shows Online and 4:15.

Confirm the table is created or not.

Hence it is created.

2. Inserting values through DML commands:

The screenshot shows the IS-RBROB DDL tool interface. The menu bar includes File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, Help, and a toolbar with icons for file operations. The main window displays SQL commands for inserting data into the EMPLEAVES table:

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT GAMA03.SPUFI.INPUT(INSERT3) - 01.05 Columns 00001 00072
Command ==> [ ] Scroll ==> CSR
***** * * * * * Top of Data ***** * * * * *
-- MSG> - CAUTION- Profile changed to CAPS OFF (from CAPS ON) because data
-- MSG> contains lower case characters.
0000100 delete from empleaves;
0001000 insert into empleaves(emp_id, days_worked, leaves_taken)
0002000 values(001,23,7);
0003000 insert into empleaves(emp_id, days_worked, leaves_taken)
0004000 values(002,24,6);
0005000 insert into empleaves(emp_id, days_worked, leaves_taken)
0006000 values(003,25,5);
0007000 insert into empleaves(emp_id, days_worked, leaves_taken)
0008000 values(004,26,4);
0009000 insert into empleaves(emp_id, days_worked, leaves_taken)
0010000 values(005,27,3);
0011000 insert into empleaves(emp_id, days_worked, leaves_taken)
0012000 values(006,28,2);
0013000 insert into empleaves(emp_id, days_worked, leaves_taken)
0014000 values(007,29,1);
0015000 insert into empleaves(emp_id, days_worked, leaves_taken)
0016000 values(008,30,0);
0017000 insert into empleaves(emp_id, days_worked, leaves_taken)
0018000 values(009,10,20);
0019000 insert into empleaves(emp_id, days_worked, leaves_taken)
0020000 values(010,15,15);
0021000
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
- ISRBROB DDL SELECT * INSERT

```

The status bar at the bottom shows Online and 4:15.

File Edit View Tools Help

Menu Utilities Compilers Help

BROWSE GAMA03.SPUFI.OUT Line 00000000 Col 001 080

Command ==> [] Scroll ==> PAGE

***** * * * * * Top of Data * * * * * *****

DROP TABLE EMPLEAVES; 00001012

DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0

CREATE TABLE EMPLEAVES (00010010

EMP_ID INT NOT NULL PRIMARY KEY, 00020010

DAYS_WORKED SMALLINT, 00030010

LEAVES_TAKEN SMALLINT, 00040010

) 00050010

IN DBMATE1.TSGAMA03; 00060011

DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0

COMMIT; 00070010

DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0

CREATE UNIQUE INDEX EMPLEAVES_IDIX1 00080010

ON EMPLEAVES(EMP_ID); 00100010

DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0

F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap

F10=Left F11=Right F12=Cancel

-ISRBROB DDL SELECT * INSERT

Online | | | | 415 |

File Edit View Tools Help

Menu Utilities Compilers Help

BROWSE GAMA03.SPUFI.OUT Line 00000025 Col 001 080

Command ==> [] Scroll ==> PAGE

DSNE617I COMMIT PERFORMED, SQLCODE IS 0

DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0

DSNE601I SQL STATEMENTS ASSUMED TO BE BETWEEN COLUMNS 1 AND 72

DSNE620I NUMBER OF SQL STATEMENTS PROCESSED IS 4

DSNE621I NUMBER OF INPUT RECORDS READ IS 12

DSNE622I NUMBER OF OUTPUT RECORDS WRITTEN IS 32

***** * * * * * Bottom of Data * * * * * *****

F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap

F10=Left F11=Right F12=Cancel

-ISRBROB DDL SELECT * INSERT

Online | | | | 415 |

Report using joins: (SELECT)

Here we're using joins to merge tables to display the employee details that is employee's department, monthly salary, monthly allowance, days worked, leaves taken.

```
File Edit View Tools Help
Clear Erase PA1 PA2 PA3 EraseF
File Edit Settings Menu Utilities Compilers Test Help
EDIT GAMA03.SPUFI.INPUT (SELECT 6) - 01.13
Command ==> Columns 00001 00072
***** Top of Data *****
000100 SELECT
000200     D.DEPT_ID,
000300     D.DEPT_NAME,
000400     ED.EMPNO
000500     S.EMP_MONTHLY_SAL,          AS EMP_ID,
000600     S.EMP_MONTHLY_BONUS      AS MONTHLY_ALLOWANCE,
000700     L.DAYS_WORKED,
000800     L.LEAVES_TAKEN
000900 FROM DEPARTMENTS D
001000 JOIN EMPDEPT ED
001100     ON D.DEPT_ID = ED.DEPT_ID
001200 JOIN EMPSAL S
001300     ON ED.EMPNO = S.EMP_ID
001400 JOIN EMPLEAVES L
001500     ON S.EMP_ID = L.EMP_ID
001600 LEFT JOIN
001700     EMPLEAVES L
001800     ON S.EMP_ID = L.EMP_ID
001900 ORDER BY
002000     D.DEPT_ID,
002100     ED.EMPNO;
002200
***** Bottom of Data *****
F1=Help F2=Split F3=Exit F5=Rfind F6=Change F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
- ISRBROB DDL * SELECT INSERT
```

→ SPUFI Output:

```
File Edit View Tools Help
Clear Erase PA1 PA2 PA3 EraseF
Menu Utilities Compilers Help
BROWSE GAMA03.SPUFI.OUT Line 00000023 Col 001 080
Command ==> Scroll ==> PAGE
          E D . E M P N O ;
-----+-----+-----+-----+-----+-----+-----+
DEPT_ID DEPT_NAME EMP_ID EMP_MONTHLY_SAL MONTHLY_ALLOWANCE DAYS
-----+-----+-----+-----+-----+-----+-----+
adm    admin      2        2000           200   -
adm    admin      6        6000           600   -
dev    development 4        4000           400   -
dev    development 9        9000           900   -
fin    human resource 3        3000           300   -
fin    human resource 10       1100           910   -
hr     human resource 7        7000           700   -
oth    others      8        8000           800   -
sal    sales       1        1000           100   -
sal    sales       5        5000           500   -
DSNE610I NUMBER OF ROWS DISPLAYED IS 10
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 100
-----+-----+-----+-----+-----+-----+-----+
DSNE617I COMMIT PERFORMED, SQLCODE IS 0
DSNE616I STATEMENT EXECUTION WAS SUCCESSFUL, SQLCODE IS 0
-----+-----+-----+-----+-----+-----+-----+
DSNE601I SQL STATEMENTS ASSUMED TO BE BETWEEN COLUMNS 1 AND 72
DSNE620I NUMBER OF SQL STATEMENTS PROCESSED IS 1
DSNE621I NUMBER OF INPUT RECORDS READ IS 23
DSNE622I NUMBER OF OUTPUT RECORDS WRITTEN IS 47
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel
* ISR B R O B - D D L DSNEPRIA ISR@PRIM
```

The screenshot shows a terminal window with the following details:

- Menu Bar:** File, Edit, View, Tools, Help.
- Toolbar:** Clear, Erase, PA1, PA2, PA3, EraseF.
- Title Bar:** Menu, Utilities, Compilers, Help. Below it, the title is BROWSE GAMAO3.SPUFI.OUT.
- Status Bar:** Line 00000025 Col 081 160, Scroll ==> PAGE.
- Text Area:** WORKED LEAVES_TAKEN

WORKED	LEAVES_TAKEN
2 4	6
2 8	2
2 6	4
1 0	2 0
2 5	5
1 5	1 5
2 9	1
3 0	0
2 3	7
2 7	3

- Bottom Text:** **** Bottom of Data *****
- Keyboard Shortcuts:**
 - F1=Help, F2=Split, F3=Exit, F5=Rfind, F7=Up, F8=Down, F9=Swap
 - F10=Left, F11=Right, F12=Cancel
 - * ISRBROB DDL - ISRBROB ISR@PRIM
- Status Bar:** Online | 4.15

Here we assure the output which is all combined from 4 tables:
Empleaves + Empdept + Departments + Empsal = SELECT