## JADAVPUR UNIVERSITY

Database Management System

Lab Assignment - 4

**Name:** SHRUTI PATHAK & ANNESA MONDAL **Roll No:** 002210503021 & 002210503022

**Dept:** Computer Science and Engineering

**Class:** MCA 1st Year 2ndSem **Session:** 2022-2024

***ASSIGNMENT 4***

# Problem 1:

1. Create EMP table with ECODE (Primary key), ENAME, DCODE, GRADE, BASIC & JN-DT as the columns. [Except BASIC & JN-DT, all columns are of char type and site of Grade is 1.]
2. Insert number of rows.

# Solution:

SQL> CREATE TABLE EMP(

* 1. ECODE char(10) PRIMARY KEY,
  2. ENAME char(30),
  3. DCODE char(10),
  4. GRADE char(1),
  5. BASIC number,
  6. JN\_DT DATE);

Table created.

SQL> INSERT INTO EMP VALUES('E1', 'Priya', 'D2', 'B', 5000, '02-JAN2020');

1 row created.

SQL> INSERT INTO EMP VALUES('E2', 'Manish', 'D1', 'C', 5500, '02-JAN2020');

1 row created.

SQL> INSERT INTO EMP VALUES('E3', 'Akash', 'D2', 'B', 5500, '06-FEB2020');

1 row created.

SQL> INSERT INTO EMP VALUES('E4', 'Rachna', 'D4', 'A', 7000, '06-APR2019');

1 row created.

SQL> INSERT INTO EMP VALUES('E5', 'Rachna', 'D3', 'B', 7500, '10AUG-2019');

1 row created.

SQL> INSERT INTO EMP VALUES('E6', 'Ritu', 'D4', 'C', 6000, '12-SEP2019');

1 row created.

SQL> INSERT INTO EMP VALUES('E7', 'Aritra', 'D3', 'A',8000, '06-JAN2021');

1 row created.

SQL> INSERT INTO EMP VALUES('E8', 'Piyush', 'D2', 'C', 7500, '17-OCT2021');

1 row created.

SQL> INSERT INTO EMP VALUES('E9', 'Navin', 'D1', 'B', 6800, '13-MAR2020');

1 row created.

SQL> INSERT INTO EMP VALUES('E10', 'Pritha', 'D4', 'A', 8500, '12-JUN2019');

1 row created.

# Problem 2:

Change the column heading as shown below, So that in subsequent SELECT statement newly set heading will be shown:

ECODE EMPLOYEE CODE

ENAME NAME

DCODE DEPT.CODE JN-DT JONING DATE

# Solution:

SQL> COLUMN ECODE HEADING 'EMPLOYEE\_CODE'; SQL> COLUMN ENAME HEADING 'NAME';

SQL> COLUMN DCODE HEADING 'DEPT\_CODE'; SQL> COLUMN JN\_DT HEADING 'JOINING DATE'; SQL> SELECT \* FROM EMP;

EMPLOYEE\_C NAME DEPT\_CODE G BASIC JOINING DATE

-

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| E1 | Priya | D2 | B | 5000 | 02-JAN-20 |
| E2 | Manish | D1 | C | 5500 | 02-JAN-20 |
| E3 | Akash | D2 | B | 5500 | 06-FEB-20 |
| E4 | Rachna | D4 | A | 7000 | 06-APR-19 |
| E5 | Rachna | D3 | B | 7500 | 10-AUG-19 |
| E6 | Ritu | D4 | C | 6000 | 12-SEP-19 |
| E7 | Aritra | D3 | A | 8000 | 06-JAN-21 |
| E8 | Piyush | D2 | C | 7500 | 17-OCT-21 |
| E9 | Navin | D1 | B | 6800 | 13-MAR-20 |
| E10 | Pritha | D4 | A | 8500 | 12-JUN-19 |

10 rows selected.

# Problem 3:

Set the format of columns as mentioned below, So that in subsequent SELECT statement, values appear in the specified format:

\*format of BASIC is such that a value of 7000 will be shown as 7,000

\*Format of GRADE will be such that full column name appears in the display.

\*For JN-DT format is such that 01-JAN-00 will be shown as JANURY 01, 2000.

# Solution:

SQL> COLUMN BASIC FORMAT '99,999'; SQL> COLUMN GRADE FORMAT A5;

SQL> ALTER SESSION SET NLS\_DATE\_FORMAT = 'MONTH DD,YYYY';

Session altered.

SQL> SELECT \* FROM EMP;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EMPLOYEE\_C NAME | DEPT\_CODE | GRADE | BASIC JOINING DATE |  |
| E1 Priya | D2 B | 5,000 |  | JANUARY 02, 2020 |
| E2 Manish | D1 C | 5,500 |  | JANUARY 02, 2020 |
| E3 Akash | D2 B | 5,500 |  | FEBRUARY 06, 2020 |
| E4 Rachna | D4 A | 7,000 |  | APRIL 06, 2019 |
| E5 Rachna | D3 B | 7,500 |  | AUGUST 10, 2019 |
| E6 Ritu | D4 C | 6,000 |  | SEPTEMBER 12, 2019 |

|  |  |
| --- | --- |
| E7 Aritra D3 A 8,000 | JANUARY 06, 2021 |
| E8 Piyush D2 C 7,500 | OCTOBER 17, 2021 |
| E9 Navin D1 B 6,800 | MARCH 13, 2020 |
| E10 Pritha D4 A 8,500 | JUNE 12, 2019 |

10 rows selected.

# Problem 4:

1. Show the display attributes of all the columns.
2. Show the display attributes of particular column.
3. Suppress the newly set attributes of JN-DT .Try a select statement. (d) Reset the newly set attributes of JN-DT (e) Reset the newly set attributes of all columns.

(f) Shown the display attributes of all columns.

# Solution:

1. SQL> COLUMN; COLUMN GRADE ON FORMAT A5

COLUMN BASIC ON FORMAT 99,999

COLUMN JN\_DT ON HEADING 'JOINING DATE'

COLUMN DCODE ON HEADING 'DEPT\_CODE'

COLUMN ENAME ON HEADING 'NAME'

COLUMN ECODE ON HEADING 'EMPLOYEE\_CODE'

COLUMN result\_plus\_xquery ON HEADING 'Result Sequence'

COLUMN other\_plus\_exp ON FORMAT a44

COLUMN other\_tag\_plus\_exp ON FORMAT a29

COLUMN object\_node\_plus\_exp ON FORMAT a8

COLUMN plan\_plus\_exp ON FORMAT a60

COLUMN parent\_id\_plus\_exp ON HEADING 'p'

FORMAT 990

COLUMN id\_plus\_exp ON HEADING 'i'

FORMAT 990

COLUMN droptime\_plus\_show\_recyc ON HEADING 'DROP TIME'

FORMAT a19

COLUMN objtype\_plus\_show\_recyc ON HEADING 'OBJECT TYPE'

FORMAT a12

COLUMN objectname\_plus\_show\_recyc ON HEADING 'RECYCLEBIN NAME'

FORMAT a30

COLUMN origname\_plus\_show\_recyc ON HEADING 'ORIGINAL NAME'

FORMAT a16

COLUMN value\_col\_plus\_show\_param ON HEADING 'VALUE'

FORMAT a30

COLUMN name\_col\_plus\_show\_param ON HEADING 'NAME'

FORMAT a36

COLUMN units\_col\_plus\_show\_sga ON FORMAT a15

COLUMN name\_col\_plus\_show\_sga ON FORMAT a24

COLUMN ERROR ON FORMAT

A65 word\_wrap

COLUMN LINE/COL ON FORMAT A8

COLUMN ROWLABEL ON FORMAT A15

***(b)***

SQL> COLUMN JN\_DT;

COLUMN JN\_DT ON

HEADING 'JOINING DATE'

1. SQL> COLUMN JN\_DT OFF; SQL> SELECT \* FROM EMP;

EMPLOYEE\_C NAME DEPT\_CODE GRADE BASIC JN\_DT

|  |  |
| --- | --- |
| E1 Priya D2 B 5,000 | JANUARY 02, 2020 |
| E2 Manish D1 C 5,500 | JANUARY 02, 2020 |
| E3 Akash D2 B 5,500 | FEBRUARY 06, 2020 |
| E4 Rachna D4 A 7,000 | APRIL 06, 2019 |
| E5 Rachna D3 B 7,500 | AUGUST 10, 2019 |
| E6 Ritu D4 C 6,000 | SEPTEMBER 12, 2019 |
| E7 Aritra D3 A 8,000 | JANUARY 06, 2021 |
| E8 Piyush D2 C 7,500 | OCTOBER 17, 2021 |
| E9 Navin D1 B 6,800 | MARCH 13, 2020 |
| E10 Pritha D4 A 8,500 | JUNE 12, 2019 |

10 rows selected.

1. SQL> COLUMN JN\_DT CLEAR; SQL> SELECT \* FROM EMP;

EMPLOYEE\_C NAME DEPT\_CODE GRADE BASIC JN\_DT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| E1 | Priya | D2 | B | 5,000 | JANUARY 02, 2020 |
| E2 | Manish | D1 | C | 5,500 | JANUARY 02, 2020 |
| E3 | Akash | D2 | B | 5,500 | FEBRUARY 06,2020 |

|  |  |  |
| --- | --- | --- |
| E4 Rachna D4 | A 7,000 APRIL 06, 2019 | |
| E5 Rachna D3 | B 7,500 AUGUST 10,2019 | |
| E6 Ritu D4 | C 6,000 SEPTEMBER 12,2019 | |
| E7 Aritra D3 | A 8,000 | JANUARY 06,2021 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| E8 | Piyush D2 |  |  | C | 7,500 | OCTOBER 17, 2021 |
| E9 | Navin D1 |  |  | B | 6,800 | MARCH 13, 2020 |
|  | | | | A | 8,500 | JUNE 12,2019 |
| E10 Pritha D4 10 rows selected.  ***(e)*** SQL> CLEAR COLUMN; columns cleared SQL> SELECT \* FROM EMP; | | | | | | |
| ECODE | ENAME DCODE | G | BASIC |  | | JN\_DT |

|  |  |
| --- | --- |
| E1 Priya D2 B 5000 | JANUARY 02, 2020 |
| E2 Manish D1 C 5500 | JANUARY 02, 2020 |
| E3 Akash D2 B 5500 | FEBRUARY 06,2020 |
| E4 Rachna D4 A 7000 | APRIL 06,2019 |
| E5 Rachna D3 B 7500 | AUGUST 10,2019 |
| E6 Ritu D4 C 6000 | SEPTEMBER 12,2019 |
| E7 Aritra D3 A 8000 | JANUARY 06 ,2021 |
| E8 Piyush D2 C 7500 | OCTOBER 17,2021 |
| E9 Navin D1 B 6800 | MARCH 13,2020 |
| E10 Pritha D4 A 8500 | JUNE 12,2019 |

10 rows selected.

***(f)*** SQL> COLUMN;

SP2-0045: \* no COLUMN defined

# Problem 5:

. (a) Show the records from EMP table in the ascending order of DCODE.

DCODE value will be shown only for the first record of that department (same of DCODE is not repeated)

1. Further take measures so that, after displaying the records of a department it skips one line.
2. Further take measures so that records one also ordered on the basis of GRADE with in a department & same GRADE value is not repeated.
3. Take measure so that at the end of each GRADE in a department it will show average Basic for that grade in that department. At the end of each department, it will show the average & total Basic for the department. At the end of all departments it will show the overall total basic & average basic.

# Solution:

* 1. SQL> BREAK ON DCODE;

SQL> SELECT \* FROM EMP ORDER BY DCODE ASC;

ECODE ENAME DCODE G BASIC JN\_DT

-

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [E2](#_bookmark0) | [Manish](#_bookmark0) | [D1](#_bookmark0) | [C](#_bookmark0) | [5500 02-JAN 4](#_bookmark0) |
| [E9](#_bookmark1) | [Navin](#_bookmark1) |  | [B](#_bookmark1) | [6800 13-MAR 11](#_bookmark1) |
| [E1](#_bookmark2) | [Priya](#_bookmark2) | [D2](#_bookmark2) | [B](#_bookmark2) | [5000 02-JAN 12](#_bookmark2) |
| [E3](#_bookmark3) | [Akash](#_bookmark3) |  | [B](#_bookmark3) | [5500 06-FEB 12](#_bookmark3) |
| [E8](#_bookmark4) | [Piyush](#_bookmark4) |  | [C](#_bookmark4) | [7500 17-OCT 12](#_bookmark4) |
| [E5](#_bookmark5)  [Aritra](#_bookmark5) | [Rachna](#_bookmark5) | [D3](#_bookmark5) [A](#_bookmark5) | [B](#_bookmark5) [8000](#_bookmark5) | [7500 10-AUG-19 E7](#_bookmark5)  [06-JAN 12](#_bookmark5) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| E10 | Pritha | D4 | A | 8500 12-JUN-19 |
| E4 | Rachna |  | A | 7000 06-APR-19 |
| E6 | Ritu |  | C | 6000 12-SEP-19 |

10 rows selected.

* 1. SQL> BREAK ON DCODE SKIP 1;

SQL> SELECT \* FROM EMP ORDER BY DCODE ASC;

ECODE ENAME DCODE G BASIC JN\_DT

-

E2 Manish D1 C 5500 02-JAN-20

E9 Navin B 6800 13-MAR-20

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| E1 | Priya | D2 | B | 5000 | 02-JAN-20 |
| E3 | Akash |  | B | 5500 | 06-FEB-20 |
| E8 | Piyush |  | C | 7500 | 17-OCT-21 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| E5 | Rachna | D3 | B | 7500 | 10-AUG-19 |
|  | E7 Aritra | A | 8000 |  | 06-JAN-21 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| E10 | Pritha | D4 | A | 8500 | 12-JUN-19 |
| E4 | Rachna |  | A | 7000 | 06-APR-19 |
| E6 | Ritu |  | C | 6000 | 12-SEP-19 |

10 rows selected.

SQL> BREAK ON DCODE SKIP 1 ON GRADE;

SQL> SELECT \* FROM EMP ORDER BY DCODE ASC, GRADE ASC;

ECODE ENAME DCODE G BASIC JN\_DT

- E9 Navin

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| D1 | B 6800 | 13-MAR-20 |  | |
| E2 | Manish |  | C | 5500 02-JAN-20 |
| E1 E3  E8 | Priya Akash  Piyush | D2 | B  C | 5000 02-JAN-20  5500 06-FEB-20  7500 17-OCT-21 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| E7 | Aritra | D3 | A | 8000 06-JAN-21 |
| E5 | Rachna |  | B | 7500 10-AUG-19 |

E10 Pritha D4 A 8500 12-JUN-19

E4 Rachna 7000 06-APR-19

E6 Ritu C 6000 12-SEP-19

10 rows selected.

* 1. SQL> COLUMN GRADE FORMAT A20;

SQL> BREAK ON DCODE SKIP 1 ON GRADE SKIP 1;

SQL> COMPUTE AVG LABEL 'AVG BASIC ON GRADE' OF BASIC ON GRADE;

SQL> SELECT \* FROM EMP ORDER BY DCODE ASC, GRADE ASC;

ECODE ENAME DCODE GRADE BASIC JN\_DT

E9 Navin D1 B 6800 13-MAR-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 6800

E2 Manish D1 C 5500 02-JAN-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 5500

E1 Priya D2 B 5000 02-JAN-20 E3 Akash 5500 06-FEB-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 5250

E8 Piyush D2 C 7500 17-OCT-21

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 7500

E7 Aritra D3 A 8000 06-JAN-21

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 8000

E5 Rachna D3 B 7500 10-AUG-19

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 7500

E10 Pritha D4 A 8500 12-JUN-19 E4 Rachna 7000 06-APR-19

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 7750

E6 Ritu D4 C 6000 12-SEP-19

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 6000

10 rows selected.

## Overall Average and Overall total BASIC at the end of the table EMP:

SQL> BREAK ON REPORT SKIP 3 ON DCODE SKIP 3 ON GRADE SKIP 1; SQL> COMPUTE AVG LABEL 'AVG BASIC ON GRADE' OF BASIC ON GRADE;

SQL> COMPUTE AVG LABEL "AVG BASIC ON DEPT" SUM LABEL "TOTAL BASIC ON DEPT" OF BASIC ON DCODE;

SQL> COMPUTE AVG LABEL "AVG BASIC" SUM LABEL "TOTAL BASIC" OF BASIC ON REPORT; SQL> SELECT \* FROM EMP ORDER BY DCODE ASC, GRADE ASC;

ECODE ENAME DCODE GRADE BASIC JN\_DT

E9 Navin D1 B 6800 13-MAR-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ----------

AVG BASIC ON GRADE 6800

E2 Manish D1 C 5500 02-JAN-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 5500

\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC 6150

TOTAL BASIC 12300

E1 Priya D2 B 5000 02-JAN-20 E3 Akash 5500 06-FEB-20

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 5250

E8 Piyush D2 C 7500 17-OCT-

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 7500

\*\*\*\*\*\*\*\*\*\* ----------

AVG BASIC 6000

TOTAL BASIC 18000

E7 Aritra D3 A 8000 06-JAN-21

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ----------

AVG BASIC ON GRADE 8000

E5 Rachna B 7500 10-AUG-19

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* AVG BASIC ON GRADE 7500

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | \*\*\*\*\*\*\*\*\* |  | ---------- |  |
| AVG BASIC |  | 7750 |  |
| TOTAL BASI |  | 15500 |  |
| E10 | Pritha | D4 | A | 8500 | 12-JUN-19 |

E4 Rachna 7000 06-APR-19

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ---------- AVG BASIC ON GRADE 7750

|  |  |
| --- | --- |
| E6 Ritu D4 C | 6000 12-SEP-19 |
| \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | ---------- |
| AVG BASIC ON GRADE | 6000 |
| \*\*\*\*\*\*\*\*\* | ---------- |
| AVG BASIC | 7166.66667 |
| TOTAL BASIC | 21500 |

10 rows selected.