**DBMS ASSIGNMENT 6**

1. Create and populate the following table ‘EMP06’. Make Emp\_no the primary key and

F\_name not null.

Emp\_no F\_name L\_name Salary Dept\_no

101 Jai 90000 1

102 Viru 80000 1

103 Gabbar Singh 70000 2

104 Basanti 60000 3

105 Ram Lal 50000 3

106 Radha Thakur 30000 3

CREATE TABLE EMP06(EMP\_NO NUMBER PRIMARY KEY, F\_NAME VARCHAR2(20) NOT NULL, L\_NAME VARCHAR2(20), SALARY NUMBER, DEPT\_NO NUMBER(5));

INSERT INTO EMP06(101,'JAI',NULL,90000,1);

INSERT INTO EMP06(102,'VIRU',NULL,80000,1);

INSERT INTO EMP06(103,'GABBAR',SINGH,70000,2);

INSERT INTO EMP06 VALUES (104,'BASANTI',NULL,60000,3);

INSERT INTO EMP06 VALUES (104,'BASANTI',NULL,60000,3);

INSERT INTO EMP06 VALUES (106,'RADHA','THAKUR',30000,3);

1. Create and the following table ‘PROJECT’. Make P\_no the primary key and put a default value constraint on P\_Loc with value = ‘Mumbai’

P\_no P\_name P\_Loc

1 XYZ Pune

2 ABC Pune

3 IJK

CREATE TABLE PROJECT (

P\_no NUMBER PRIMARY KEY,

P\_name VARCHAR2(50),

P\_Loc VARCHAR2(50) DEFAULT 'Mumbai'

);

INSERT INTO PROJECT (P\_no, P\_name, P\_Loc) VALUES (1, 'XYZ', 'Pune');

INSERT INTO PROJECT (P\_no, P\_name, P\_Loc) VALUES (2, 'ABC', 'Pune');

INSERT INTO PROJECT (P\_no, P\_name, P\_Loc) VALUES (3, 'IJK', NULL);

1. Create and populate the following EMP\_PROJ table. Make (Emp\_no, P\_no) the primary key.

Emp\_no P\_no

101 1

102 1

103 2

104 2

101 2

105 2

CREATE TABLE EMP\_PROJ(EMP\_NO NUMBER(5),P\_NO NUMBER(5));

ALTER TABLE EMP\_PROJ ADD CONSTRAINT PKY\_KEY PRIMARY KEY(EMP\_NO,P\_NO);

INSERT INTO EMP\_PROJ VALUES(101,1);

INSERT INTO EMP\_PROJ VALUES(102,1);

INSERT INTO EMP\_PROJ VALUES(103,2);

INSERT INTO EMP\_PROJ VALUES(104,2);

INSERT INTO EMP\_PROJ VALUES(101,2);

INSERT INTO EMP\_PROJ VALUES(105,2);

1. Display the employee’s first names with the project name’s they are working on.

SELECT E.F\_NAME,P.P\_NAME FROM EMP06 E,PROJECT P,EMP\_PROJ EP WHERE EP.EMP\_NO = E.EMP\_NO AND EP.P\_NO = P.P\_NO;

F\_NAME P\_NAME

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JAI XYZ

VIRU XYZ

JAI ABC

GABBAR ABC

BASANTI ABC

RAM ABC

1. In which city Gabbar Singh works.

SELECT E.F\_NAME, P.P\_LOC FROM EMP06 E,PROJECT P, EMP\_PROJ EP WHERE E.F\_NAME = 'GABBAR' AND E.EMP\_NO = EP.EMP\_NO AND P.P\_NO = EP.P\_NO;

F\_NAME P\_LOC

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GABBAR Pune

1. Find the employee names who are not yet assigned to any project (using minus).

SELECT E.F\_NAME, E.L\_NAME

FROM EMP06 E

MINUS

SELECT E.F\_NAME, E.L\_NAME

FROM EMP06 E

OUTER JOIN EMP\_PROJ EP ON E.EMP\_NO = EP.EMP\_NO;

F\_NAME L\_NAME

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RADHA THAKUR

1. Find the employee names who are not yet assigned to any project (using outer join).

SELECT E.F\_NAME, E.L\_NAME

FROM EMP06 E

LEFT JOIN EMP\_PROJ EP ON E.EMP\_NO = EP.EMP\_NO

WHERE EP.EMP\_NO IS NULL;

F\_NAME L\_NAME

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RADHA THAKUR

1. Find the project names where no employees are working (using outer join).

SELECT P.P\_name

FROM PROJECT P

LEFT JOIN EMP\_PROJ EP ON P.P\_no = EP.P\_no

WHERE EP.P\_no IS NULL;

P\_NAME

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IJK

1. Find all the employee names who are working in project number 1 and project ‘ABC’ (using union).

-- Query to find employee names working on project number 1

SELECT E.F\_NAME, E.L\_NAME

FROM EMP06 E

JOIN EMP\_PROJ EP ON E.EMP\_NO = EP.EMP\_NO

WHERE EP.P\_no = 1

UNION

-- Query to find employee names working on project 'ABC'

SELECT E.F\_NAME, E.L\_NAME

FROM EMP06 E

JOIN EMP\_PROJ EP ON E.EMP\_NO = EP.EMP\_NO

JOIN PROJECT P ON EP.P\_no = P.P\_no

WHERE P.P\_name = 'ABC';

F\_NAME L\_NAME

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JAI

VIRU

GABBAR SINGH

BASANTI

RAM LAL

1. Find all the employee names who are working in both project number 1 and project

number 2 (using intersect).

F\_NAME L\_NAME

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JAI

1. Find the number of employees working in each project.

SELECT EP.P\_no, COUNT(EP.EMP\_no) AS num\_employees

FROM EMP\_PROJ EP

GROUP BY EP.P\_no;

P\_NO NUM\_EMPLOYEES

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1 2

2 4

1. Find the average salary of each department.

SELECT DEPT\_NO,AVG(SALARY) FROM EMP06 GROUP BY DEPT\_NO;

DEPT\_NO AVG(SALARY)

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1 85000

2 70000

3 46666.6667

1. Find the department number with the number of employees working in each department where the average salary is greater than 60000 and number of employees greater than 1;

SELECT E.DEPT\_NO, COUNT(E.EMP\_NO) FROM EMP06 E GROUP BY E.DEPT\_NO HAVING AVG(SALARY) > 60000 AND COUNT(E.EMP\_NO) >1;

DEPT\_NO COUNT(E.EMP\_NO)

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1 2

-- if greater than or equals to 1

SELECT E.DEPT\_NO, COUNT(E.EMP\_NO) FROM EMP06 E GROUP BY E.DEPT\_NO HAVING AVG(SALARY) > 60000 AND COUNT(E.EMP\_NO) >=1;

DEPT\_NO COUNT(E.EMP\_NO)

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1 2

2 1

1. Find all the employees who earn more than Basanti.

SELECT COUNT(EMP\_NO) FROM EMP06 WHERE SALARY > (SELECT SALARY FROM EMP06 WHERE F\_NAME = 'BASANTI');

COUNT(EMP\_NO)

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3

1. Find all the employees who earn more than the average salary of all employees.

SELECT COUNT(EMP\_NO) FROM EMP06 WHERE SALARY > (SELECT AVG(SALARY) FROM EMP06 );

COUNT(EMP\_NO)

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3

1. Find the employee who earns the highest salary.

SELECT F\_NAME || ' ' || L\_NAME AS NAME, SALARY FROM EMP06 WH

ERE SALARY = (SELECT MAX(SALARY) FROM EMP06);

NAME SALARY

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JAI 90000

1. Find the employee who earns the highest salary in dept\_no 3.

SELECT F\_NAME || ' ' || L\_NAME AS NAME, SALARY FROM EMP06 WHERE SALARY = (SELECT MAX(SALARY) FROM EMP06 WHERE DEPT\_NO = 3);

NAME SALARY

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BASANTI 60000

1. Find the employee earning the second highest salary.

SELECT Emp\_no, F\_name, L\_name, Salary

FROM (

SELECT Emp\_no, F\_name, L\_name, Salary,

ROW\_NUMBER() OVER (ORDER BY Salary DESC) AS salary\_rank

FROM EMP06

) ranked\_employees

WHERE salary\_rank = 2;

EMP\_NO F\_NAME L\_NAME SALARY

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102 VIRU 80000

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM (

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY, ROWNUM AS RN

FROM (

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM EMP06

ORDER BY SALARY DESC

)

)

WHERE RN = 2;

Or,

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM (

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY, ROW\_NUMBER() OVER (ORDER BY SALARY DESC) AS RN

FROM EMP06

)

WHERE RN = 2;

1. Find the dept\_no having the highest average salary.

SELECT DEPT\_NO,SALARY FROM EMP06 WHERE SALARY = (SELECT MAX(SALARY) FROM EMP06);

DEPT\_NO SALARY

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1 90000

OR,

SELECT dept\_no, avg\_salary

FROM (

SELECT dept\_no, AVG(salary) AS avg\_salary

FROM EMP06

GROUP BY dept\_no

ORDER BY AVG(salary) DESC

)

WHERE ROWNUM = 1;

1. Find the employee with the third highest salary among all the employees.

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM (

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM (

SELECT EMP\_NO, F\_NAME, L\_NAME, SALARY

FROM EMP06

ORDER BY SALARY DESC

)

WHERE ROWNUM <= 3

ORDER BY SALARY ASC

)

WHERE ROWNUM = 1;

EMP\_NO F\_NAME L\_NAME SALARY

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103 GABBAR SINGH 70000