ASSIGNMENT - IV

TITLE :
SQL Queries – All types of Join, Sub-Query and View: Write at least10 SQL queries for suitable database application using SQL DML statements.

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QUERIES :

1)TABLES :

a)

```
CREATE DATABASE PR4;
USE PR4;

CREATE TABLE College(
clg_id INT PRIMARY KEY,
clg_name VARCHAR(50),
phone BIGINT,
address VARCHAR(50));

INSERT INTO College VALUES
(6254,'VIT','21121478','Nagpur'),
(6284,'VPKBIET','211253','Baramati'),
(6128,'PICT','6582342','Mumbai'),
(6001,'COEP','21120212','Pune'),
(6220,'VIIT','2111258','Nashik');

SELECT * FROM College;
```

clg_id	clg_name	phone	address
6001	COEP	21120212	Pune
6128	PICT	6582342	Mumbai
6220	VIIT	2111258	Nashik
6254	VIT	21121478	Nagpur
6284	VPKBIET	211253	Baramati
NULL	NULL	NULL	NULL

b)

```
CREATE TABLE Student(
s_id INT PRIMARY KEY,
s_name VARCHAR(50),
phone VARCHAR(50),
age INT NOT NULL,
marks INT NOT NULL,
clg_id INT,
FOREIGN KEY(clg_id) REFERENCES college(clg_id));

INSERT INTO Student VALUES
(101,'Ram','8965354525',20,89,6284),
(102,'Karan','9852642312',26,95,6254),
(103,'Avi','8786452364',21,92,6001),
(104,'sham','9820654871',20,65,6220);

SELECT * FROM Student;
```

s_id	s_name	phone	age	marks	clg_id
101	Ram	8965354525	20	89	6284
102	Karan	9852642312	26	95	6254
103	Avi	8786452364	21	92	6001
104	sham	9820654871	20	65	6220
NULL	NULL	NULL	NULL	NULL	NULL

2) JOINS :

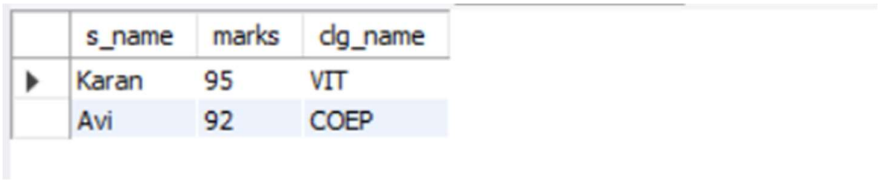
a) Inner Join :

```
SELECT s.s_name, s.marks, c.clg_name
FROM Student s
INNER JOIN College c ON s.clg_id = c.clg_id;
```

s_name	marks	clg_name
Ram	89	VPKBIET
Karan	95	VIT
Avi	92	COEP
sham	65	VIIT

b) Inner Join :

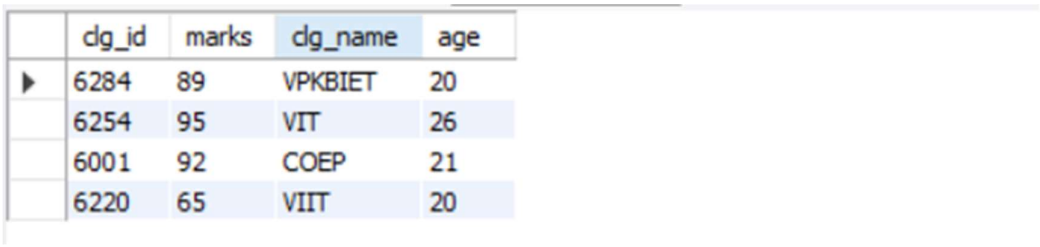
```
SELECT s.s_name, s.marks, c.clg_name
FROM Student s
INNER JOIN College c ON s.clg_id = c.clg_id
WHERE marks > 90;
```



s_name	marks	clg_name
Karan	95	VIT
Avi	92	COEP

c) Left Join :

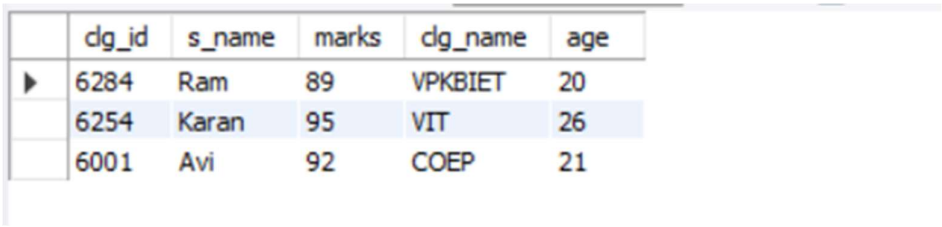
```
SELECT c.clg_id, s.marks, c.clg_name, s.age
FROM Student s
LEFT JOIN College c ON s.clg_id = c.clg_id;
```



clg_id	marks	clg_name	age
6284	89	VPKBIET	20
6254	95	VIT	26
6001	92	COEP	21
6220	65	VIIT	20

d) Right Join :

```
SELECT c.clg_id, s.s_name, s.marks, c.clg_name, s.age
FROM Student s
RIGHT JOIN College c ON s.clg_id = c.clg_id
WHERE marks > 85;
```



clg_id	s_name	marks	clg_name	age
6284	Ram	89	VPKBIET	20
6254	Karan	95	VIT	26
6001	Avi	92	COEP	21

e) Join :

```
SELECT c.clg_id, s.marks, c.clg_name, s.age
FROM Student s
JOIN College c ON s.clg_id = c.clg_id;
```

clg_id	marks	clg_name	age
6284	89	VPKBIET	20
6254	95	VIT	26
6001	92	COEP	21
6220	65	VIIT	20

3) SUBQUERIES :

a) SELECT :

```
SELECT s_name, marks FROM Student
WHERE marks > (SELECT MIN(marks) FROM Student);
```

s_name	marks
Ram	89
Karan	95
Avi	92

b) SELECT :

```
SELECT clg_name, phone FROM College
WHERE clg_id IN (SELECT DISTINCT clg_id FROM Student);
```

clg_name	phone
COEP	21120212
VIIT	2111258
VIT	21121478
VPKBIET	211253

c) SELECT :

```
SELECT * FROM Student
WHERE clg_id = (SELECT clg_id FROM College WHERE clg_name = 'COEP');
```

s_id	s_name	phone	age	marks	clg_id
103	Avi	8786452364	21	92	6001
NULL	NULL	NULL	NULL	NULL	NULL

d) Insertion using Subquery :

```
INSERT INTO Student(s_id, s_name, phone, age, marks, clg_id)
VALUES(106,'Rahul','9876543210',22,87,(SELECT clg_id FROM College WHERE
clg_name = 'VIT'));

SELECT * FROM Studen      t;
```

s_id	s_name	phone	age	marks	clg_id
101	Ram	8965354525	20	89	6284
102	Karan	9852642312	26	95	6254
103	Avi	8786452364	21	92	6001
104	sham	9820654871	20	65	6220
106	Rahul	9876543210	22	87	6254
NULL	NULL	NULL	NULL	NULL	NULL

e) Update using Subquery :

```
UPDATE Student
SET marks = marks + 5
WHERE clg_id = (SELECT clg_id FROM College WHERE clg_name =
'VPKBIET');

SELECT * FROM Student;
```

s_id	s_name	phone	age	marks	clg_id
101	Ram	8965354525	20	94	6284
102	Karan	9852642312	26	95	6254
103	Avi	8786452364	21	92	6001
104	sham	9820654871	20	65	6220
106	Rahul	9876543210	22	87	6254
NULL	NULL	NULL	NULL	NULL	NULL

f) Delete using Subquery :

```
DELETE FROM Student
WHERE clg_id = (SELECT clg_id FROM College WHERE clg_name = 'VIIT');

SELECT * FROM Student;
```

s_id	s_name	phone	age	marks	clg_id
101	Ram	8965354525	20	94	6284
102	Karan	9852642312	26	95	6254
103	Avi	Karan 2364	21	92	6001
106	Rahul	9876543210	22	87	6254
NULL	NULL	NULL	NULL	NULL	NULL

4) VIEW :

a) Create View :

```
CREATE VIEW StudentCollege AS
SELECT s.s_id, s.s_name, s.marks, c.clg_name, c.address
FROM Student s
JOIN College c ON s.clg_id = c.clg_id;

SELECT * FROM StudentCollege;
```

s_id	s_name	marks	clg_name	address
101	Ram	94	VPKBIET	Baramati
102	Karan	95	VIT	Nagpur
103	Avi	92	COEP	Pune
106	Rahul	87	VIT	Nagpur

b) Create View :

```
CREATE VIEW SeniorStudents AS
SELECT s_id, s_name, age, marks FROM Student
WHERE age >= 21;

SELECT * FROM SeniorStudents;
```

s_id	s_name	age	marks
102	Karan	26	95
103	Avi	21	92
106	Rahul	22	87

c) Create View :

```
CREATE VIEW HighScores AS
SELECT s_id, s_name, marks, clg_id FROM Student
WHERE marks > 90;

SELECT * FROM HighScores;
```

s_id	s_name	marks	clg_id
101	Ram	94	6284
102	Karan	95	6254
103	Avi	92	6001

d) Update View :

```
UPDATE HighScores
SET marks = 98
WHERE s_id = 102;

SELECT * FROM HighScores;
```

s_id	s_name	marks	clg_id
101	Ram	94	6284
102	Karan	98	6254
103	Avi	92	6001

e) Delete value from View :

```
DELETE FROM HighScores
WHERE s_id = 103;

SELECT * FROM HighScores;
```

s_id	s_name	marks	clg_id
101	Ram	94	6284
102	Karan	98	6254

f) Drop View :

```
DROP VIEW StudentCollege;
```