

Sheet 3

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SUBJECT: DBMS Lab

Assignment No: 7

1. Create a view of all students in dept CSE.

query:

```
CREATE VIEW CSE_students AS
SELECT
    *
FROM
    students
WHERE
    deptcode = 'CSE';
```

```
lab=> \d
      List of relations
Schema |      Name      | Type | Owner
-----+-----+-----+-----
public | crs_offrd      | table | arnab
public | crs_regd       | table | arnab
public | cse_students   | view  | arnab
public | depts          | table | arnab
public | faculty        | table | arnab
public | students       | table | arnab
(6 rows)

lab=> SELECT * FROM cse_students;
 rollno |      name      |      bdate      | deptcode | hostel | parent_inc
-----+-----+-----+-----+-----+-----
51058167 | Divij          | 2000-02-14      | CSE      | 6      | 6290000.0
51053419 | Keya          | 2001-07-25      | CSE      | 6      | 5570000.0
51054790 | Nishith        | 2001-05-23      | CSE      | 4      | 5900000.0
51054793 | Shakira        | 2001-05-23      | CSE      | 4      | 5900000.0
51053418 | Keya2.0        | 2001-07-25      | CSE      | 6      | 5570000.0
(5 rows)
```

2. Create a view named as cse_stud for 'CSE' dept students having attributes rollno, name, hostel

query:

```
CREATE VIEW cse_stud AS
SELECT
    rollno,
    name,
    hostel
FROM
    students
WHERE
    deptcode = 'CSE';
```

```
lab=> SELECT * FROM cse_stud;
  rollno | name          | hostel
-----+-----+-----
 51058167 | Divij         |      6
 51053419 | Keya          |      6
 51054790 | Nishith       |      4
 51054793 | Shakira       |      4
 51053418 | Keya2.0       |      6
(5 rows)
```

3. Insert a new student of CSE. Analyse the result.

query:

```
INSERT INTO
```

```

cse_stud
VALUES
('51052987', 'Rashmi', '8');

```

```

lab=> INSERT INTO
cse_stud
VALUES
('51052987', 'Rashmi', '8');
INSERT 0 1
lab=> SELECT * FROM cse_stud;

```

rollno	name	hostel
51058167	Divij	6
51053419	Keya	6
51054790	Nishith	4
51054793	Shakira	4
51053418	Keya2.0	6

```

(5 rows)

lab=> SELECT * FROM students WHERE rollno=51052987;

```

rollno	name	bdate	deptcode	hostel	parent_inc
51052987	Rashmi			8	

```

(1 row)

```

Analysis:

Inserting the new record didn't reflect in the virtual table but did show up in the base table. As we can see the record in the base table doesn't have any deptcode. Hence the query used for the View doesn't apply here.

4. Increment parental income by Rs. 5000 (HRA).

query:

```

UPDATE
cse_students
SET
parent_inc = parent_inc + 5000;

```

```

lab=> UPDATE
      cse_students
SET
      parent_inc = parent_inc + 5000;
UPDATE 5
lab=> SELECT * FROM cse_students;

```

rollno	name	bdate	deptcode	hostel	parent_inc
51058167	Divij	2000-02-14	CSE	6	6295000.0
51053419	Keya	2001-07-25	CSE	6	5575000.0
51054790	Nishith	2001-05-23	CSE	4	5905000.0
51054793	Shakira	2001-05-23	CSE	4	5905000.0
51053418	Keya2.0	2001-07-25	CSE	6	5575000.0

(5 rows)

5. Delete the view.

query:

```
DROP VIEW cse_stud;
```

```

lab=> DROP VIEW cse_stud;
DROP VIEW
lab=> \d

```

List of relations			
Schema	Name	Type	Owner
public	crs_offrd	table	arnab
public	crs_regd	table	arnab
public	cse_students	view	arnab
public	depts	table	arnab
public	faculty	table	arnab
public	students	table	arnab

(6 rows)

6.Create another view of all students in dept Mechanical Engineering (department Name). The view will contain attributes namely Roll-No, Name, Department Name, Age

query:

```
CREATE VIEW mec_stud AS
SELECT
    rollno,
    name,
    deptcode,
    DATE_PART('year', AGE(bdate)) AS age
FROM
    students
WHERE
    deptcode = 'MEC';
```

```

lab=> CREATE VIEW mec_stud AS
SELECT
    rollno,
    name,
    deptcode,
    DATE_PART('year', AGE(bdate)) AS age
FROM
    students
WHERE
    deptcode = 'MEC';

```

```

CREATE VIEW

```

```

lab=> SELECT * FROM mec_stud;

```

rollno	name	deptcode	age
51052985	Jayant	MEC	21
51052529	Rati	MEC	21
51052466	Misha	MEC	20
51056947	Jayesh	MEC	20

(4 rows)

7. Insert a new student of Mechanical Engineering Department.

query:

```

INSERT INTO

```

```

    students

```

```

VALUES

```

```

(

```

```

    51019004,
```

```

    'Krishnendu',
```

```

    date('2000-02-03'),
```

```

    'MEC',
```

```

    6,
```

```

    573600

```

);

```
lab=> INSERT INTO
      students
VALUES
  (
    51019004,
    'Krishnendu',
    date('2000-02-03'),
    'MEC',
    6,
    573600
  );
INSERT 0 1
lab=> SELECT * FROM mec_stud;
```

rollno	name	deptcode	age
51052985	Jayant	MEC	21
51052529	Rati	MEC	21
51052466	Misha	MEC	20
51056947	Jayesh	MEC	20
51019004	Krishnendu	MEC	21

(5 rows)

Analysis: When we perform the INSERT on the base table it get's reflected in the view as well.

8. Delete a student (for a given Name) of the same department

query:

```
DELETE FROM
  students
WHERE
  name = 'Krishnendu';
```

```

lab=> DELETE FROM
      students
WHERE
      name = 'Krishnendu';
DELETE 1
lab=> SELECT * FROM mec_stud;

```

rollno	name	deptcode	age
51052985	Jayant	MEC	21
51052529	Rati	MEC	21
51052466	Misha	MEC	20
51056947	Jayesh	MEC	20

(4 rows)

Analysis: When we perform the DELETE on the base table it get's reflected in the view as well.

9. Shift a student (for a given Name) from Mechanical to Computer Science.

query:

```

UPDATE
  mec_stud
SET
  deptcode = 'CSE'
WHERE
  name = 'Misha';

```



```

lab=> UPDATE
      mec_stud
SET
      deptcode = 'CSE'
WHERE
      name = 'Misha';
UPDATE 1
lab=> SELECT * FROM mec_stud;

```

rollno	name	deptcode	age
51052985	Jayant	MEC	21
51052529	Rati	MEC	21
51056947	Jayesh	MEC	20

(3 rows)

```

lab=> SELECT * FROM cse_students;

```

rollno	name	bdate	deptcode	hostel	parent_inc
51058167	Divij	2000-02-14	CSE	6	6295000.0
51053419	Keya	2001-07-25	CSE	6	5575000.0
51054790	Nishith	2001-05-23	CSE	4	5905000.0
51054793	Shakira	2001-05-23	CSE	4	5905000.0
51053418	Keya2.0	2001-07-25	CSE	6	5575000.0
51052466	Misha	2000-09-27	CSE	3	1820000.0

(6 rows)

Analysis: After performing the update command the mec_stud get's updated and teh cse_students also reflect the change.