***Retrieval from 2 tables - primary key, foreign key***

**Syntax to create tables with primary key and foreign key.**

**T1 (a1, a2, a3)**

**T2 (b1, b2, b3, a1)**

1. **CREATE TABLE T1(a1 datatype (size) PRIMARY KEY, a2 datatype(size),**

**a3 datatype(size));**

**(OR)**

**CREATE TABLE T1(a1 datatype(size), a2 datatype(size), a3 datatype(size), PRIMARY KEY(a1);**

1. **CREATE TABLE T2 (b1 datatype(size) PRIMARY KEY, b2,datatype(size),**

**b3 datatype(size), a1 datatype(size) REFERENCES T1);**

**(OR)**

**CREATE TABLE T2 (b1 datatype (size), b2 datatype (size), b3 datatype(size), PRIMARY KEY(b1), FOREIGN KEY(a1) REFERENCES T1);**

**Consider tables having 2 attributes together as primary key then syntax is as follows**

**T3 (c1, c2, c3)**

**T4 (d1, d2, d3, c1, c2)**

**CREATE TABLE T3(c1 datatype(size), c2 datatype(size), c3 datatype(size), PRIMARY KEY(c1, c2) );**

**CREATE TABLE T4 (d1 datatype (size), d2 datatype (size), d3 datatype(size), PRIMARY KEY(d1,d2), FOREIGN KEY(c1,c2) REFERENCES T3);**

Stud( regno, sname, cgpa, gender , sem, dno)

Course( code, cname, credits, dno)

Dept(dno, dname)

Reg( regno, code)

1. Create the above tables with appropriate data type and keys and enforce the following constraints.
2. cgpa should not exceed the value 10and not less than 0.
3. The value for credits should be between 2 and 4.
4. Dname can only be CSE, ECE and EEE
5. Cname has to be unique
6. Credits cannot be null

CREATE TABLE Dept (dno varchar(10) PRIMARY KEY, dname varchar(10) , CONSTRAINT C1 CHECK(dname IN(‘CSE’, ‘ECE’, ‘EEE’));

CREATE TABLE Course (code varchar(10) PRIMARY KEY, cname char(20) UNIIQUE, credits char(2) NOT NULL, dno varchar(10) REFERENCES Dept));

CREATE TABLE Stud (regno varchar(10) PRIMARY KEY, sname char(20), cgpa number(2) , gender char(1), sem char(1), CONSTRAINT C2 CHECK (cgpa BETWEEN 0 AND 10), dno varchar(10) REFERENCES Dept));

CREATE TABLE Reg( regno varchar(10) REFERENCES Stud, dno varchar(10) REFERENCES Dept));

1. Insert tuples in the above tables.

***Retrieving data/columns from multiple tables***

***Let T1(a1, a2, a3)***

***T2( b1, b2, b3, a1)***

***SYNTAX:***

***SELECT T1.a1 , a2, a3, b1, b2, b3***

***FROM T1, T2***

***WHERE T1.a1=T2.a1 AND/OR OTHER CONDITIONS;***

* ***The common attribute across both the tables have to be equated in the WHERE clause.***
* ***When the common attribute has to be in the resultant table, then the SELECT clause should have table name with dot operator followed by the common attribute (this is to avoid ambiguity as the common attribute is present in both the tables).***

1. Retrieve the names of the course which the students have registered for.
2. Retrieve the coursecode and coursename of the course which the students have registered for.
3. Retrieve the names of the students along with the dname they belong to.
4. Retrieve the names of the CSE students along with the dname
5. List the names of CSE girls students .
6. Name all the courses offered by ECE dept and also display the credits
7. List the names of all the 4 credit courses offered by CSE and EEE
8. Display which course is offered by which dept and also the list of students registered for that course
9. Regno of the student who has registered for a 4 credits CSE course or a 3 credit course offered by ‘EEE’.