

Assignment - 4

* Create following tables using primary and foreign key

1. Students (rollno, sname, date of birth, gender, city, cid)

```
→ CREATE TABLE student (  
    rollno NUMBER PRIMARY KEY,  
    sname VARCHAR2(50),  
    date_of_birth DATE,  
    gender CHAR(1),  
    city VARCHAR2(50),  
    cid NUMBER,  
    CONSTRAINT fk_class FOREIGN KEY  
        (cid) REFERENCES class(cid)  
);
```

2. MARKS (rollno, sub1, sub2, sub3)

```
→ CREATE TABLE MARKS (  
    rollno NUMBER,  
    sub1 NUMBER,  
    sub2 NUMBER,  
    sub3 NUMBER,  
    CONSTRAINT pk_marks PRIMARY KEY  
        (rollno),  
    CONSTRAINT fk_student FOREIGN KEY  
        (rollno) REFERENCES student  
        (rollno)  
);
```

3. Class (cid, cname)

→ CREATE TABLE Class(
 cid NUMBER PRIMARY KEY,
 cname VARCHAR2(50),
);

* Queries

* Inserting Records in Class table

→ Insert Into Class (cid, cname)
VALUES (1, 'FYBCA'),
 (2, 'SYBCA'),
 (3, 'TYBCA');

→ In Student table

→ Insert INTO Student (rollno, sname, date of birth,
gender, city, cid)

VALUES

(110, 'RAJ', TO_DATE('15-JUL-2001', 'DD-MON-YYYY'), 'M',
 'Ahmedabad', 1),

(120, 'Mitul', TO_DATE('08-MAR-2002', 'DD-MON-YYYY'), 'F',
 'Surat', 2),

(130, 'Nisha', TO_DATE('22-JAN-2002', 'DD-MON-YYYY'), 'F',
 'Bhavnagar', 2),

(140, 'Mehul', TO_DATE('19-JAN-2000', 'DD-MON-YYYY'), 'M',
 'Vadodra', 3),

(150, 'Priya', TO_DATE('05-DEC-2002', 'DD-MON-YYYY'), 'F',
 'Mumbai', 2);

→ Inserting Marks

→ INSERT INTO Marks (rolno, sub1, sub2, sub3)
VALUES (110, 85, 78, 92),
(120, 88, 91, 78),
(130, 76, 85, 88),
(140, 65, 72, 70),
(150, 90, 87, 94);

* Queries

1. Add Fields named "Total" and "Per" in the Marks table

→ ALTER TABLE Marks
ADD (Total NUMBER, Per NUMBER);

2. UPDATE the Total Field

→ UPDATE MARKS
SET Total = sub1 + sub2 + sub3;

3. Update Per Field

→ UPDATE MARKS
SET Per = ROUND((sub1 + sub2 + sub3) / 3, 2);

4. Display the student's personal detail with class name

→ SELECT s.rolno, s.name, s.date of birth, s.gender,
s.city, c.name
FROM Student s
JOIN Class - C ON s.cid = c.cid;

rollno	sname	date of birth	Gender	City	cname
110	Raj	15-Jul-2001	M	Ahmedabad	FYBCA
120	Mitali	08-MAR-2002	F	Surat	SYBCA
130	Nisha	22-JAN-2001	F	Bhavnagar	FYBCA
140	Mehru	29-JUN-2000	M	Vadodra	TYBCA
150	Priya	05-DEC-2002	F	Mumbai	SYBCA

5 Display students result with their name
 → SELECT

Student.sname,
 Marks.sub1,
 Marks.sub2,
 Marks.sub3,
 Marks.Total,
 Marks.Per

FROM

Student

JOIN

Marks

ON

Student.rollno = Marks.rollno;

output:

sname	sub1	sub2	sub3	Total	Per
Raj Patel	85	78	92	255	85.00
Mitali Shah	88	91	79	258	86.00
Nisha Mehta	76	85	88	249	83.00
Mehru Joshi	65	72	70	207	69.00
Priya Desai	90	87	94	271	90.33

6. Display the students detail with result whose birth is in the year 2002.

→ SELECT

Student.rollno,
Student.sname,
Student.date_of_birth,
Student.gender,
Student.city,
Marks.Total,
Marks.Per

From

student

JOIN

Marks

ON

Student.rollno = Marks.rollno

WHERE

EXTRACT(YEAR FROM Student.date_of_birth)=2002;

rollno	sname	date of birth	gender	city	Total	Per
110	Raj Patel	15-JUL-2002	M	Ahmedabad	955	85
130	Nishu	22-JAN-2002	F	Bharuch	944	83

7. Display male students results

→ SELECT

Student.rollno,
Student.sname,
Student.gender,
Marks.sub1,
Marks.sub2,
Marks.sub3,
Marks.Total,

FROM

JOIN

ON

WHERE

rollno

110

140

8. Display
belong

→ SELECT

FROM

JOIN

ON

WHERE

rollno

110

120


```

        Marks. Per
FROM Student
JOIN Marks
ON Student.rollno = Marks.rollno
WHERE Student.gender = 'M';

```

rollno	sname	gender	sub1	sub2	sub3	Total	Per
110	Raj	M	85	78	92	255	85
140	Mehel	M	65	72	70	207	69

8. Display the students personal details who belong to the class "FYBCA".

```

→ SELECT Student.rollno,
        Student.sname,
        Student.date_of_birth,
        Student.gender,
        Student.city,
        class.cname

```

```

FROM Student
JOIN Class
ON Student.cid = Class.cid
WHERE Class.cname = 'FYBCA';

```

rollno	sname	date_of_birth	gender	city	cname
110	Raj	15-JUL-2001	M	Ahmednagar	FYBCA
120	Mitali	20-MAR-2009	F	Surat	FYBCA

9. Display the result of students who belong to the class "SYBCA".

```

→ SELECT Student.rollno,
        Student.sname,
        Student.date of birth,
        Student.gender,
        Student.city,
        Marks.Total,
        Marks.Per
FROM Student
JOIN MARKS
ON Student.rollno = Marks.rollno
JOIN Class
ON Student.cid = Class.cid
WHERE Class.cname = 'SYBCA';

```

rollno	sname	date of birth	gender	city	Total	Per
120	Mitali	08-MAR-2002	F	Surat	258	86
150	Priya	05-DEC-2009	F	Mumbai	271	90.33

10. Display class name and total number of students available in each class.

```

→ SELECT Class.cname,
        COUNT(Student.rollno) As total students
FROM Class
LEFT JOIN Student
ON Class.cid = Student.cid
GROUP BY Class.cname;

```

cname	total students
FYBCA	2
SYBCA	2

11. Display the students' details in descending order with class name.

```

→ SELECT Student.rollno,
        Student.sname,
        Student.date_of_birth,
        Student.gender,
        Student.city,
        Class.cname
FROM Student
JOIN Class
ON Student.cid = Class.cid
ORDER BY student.sname DESC;

```

rollno	sname	date_of_birth	gender	city	cname
140	Mehul	25-JUN-2001	M	Vadodara	ETBCA
120	Mitchel	10-MAR-2002	F	Surat	ETBCA
110	Raj	15-JUL-2001	M	Ahmedabad	SYBCA
130	Nisha	22-JAN-2002	F	Bharuch	SYBCA
150	Prigee	05-DEC-2002	F	Navsari	ETBCA

12. Display the students detail who got distinction

```

→ SELECT Student.rollno,
        Student.sname,
        Student.date_of_birth,
        Student.gender,
        Student.city,
        Marks.Total,
        Marks.Per
FROM Student
JOIN Marks
ON Student.rollno = Marks.rollno
WHERE Marks.Per >= 75;

```


rollno	sname	date of birth	gender	city	Total	Per
110	Raj	15-JUL-2007	M	Ahmedabad	255	85
120	Mitali	30-MAR-2002	F	Surat	258	86
130	Priya	05-DEC-2002	F	Mumbai	271	90.33

13. Display the students results who belong to Surat.

→ SELECT Student.rollno,
Student.sname,
Student.gender,
Marks.sub1,
Marks.sub2,
Marks.sub3,
Marks.Total,
Marks.Per

FROM Student

JOIN Marks

ON Student.rollno = Marks.rollno

WHERE Student.city = 'Surat';

rollno	sname	gender	sub1	sub2	sub3	Total	Per
120	Mitali	F	85	88	85	258	86
130	Nisha	F	79	85	82	246	82

14. Display Female Students results who belong to Bharuch city.

→ SELECT Student.rollno,
Student.sname,
Student.gender,
Marks.sub1,
Marks.sub2,
Marks.sub3,
Marks.Total,

Mark
FROM stu
JOIN M
ON stu
WHERE st
st

rollno s
130 N

15. Display t
name st

→ SELECT st

FROM st
JOIN M
ON st
WHERE st
AND

rollno sname
130 Mitali

city	Total	Per
Ahmedabad	255	85
Surat	258	86
Nasirpur	271	90.33

who belong to Surat,

Marks_Per
 FROM Student
 JOIN Marks
 ON Student.rollno = Marks.rollno
 WHERE Student.city = 'Bhavnagar' AND
 Student.gender = 'F' ;

rollno	sname	gender	sub1	sub2	sub3	Total	Per
130	Nisha	F	79	85	82	246	82

15. Display the Nasirpur's student's results whose name start with "M".

→ SELECT Student.rollno,
 Student.sname,
 Student.gender,
 Marks.sub1,
 Marks.sub2,
 Marks.sub3,
 Marks.Total,
 Marks.Per

FROM Student
 JOIN Marks
 ON Student.rollno = Marks.rollno
 WHERE Student.city = 'Nasirpur'
 AND Student.sname LIKE 'M%';

rollno	sname	gender	sub1	sub2	sub3	Total	Per
150	Mitali	F	85	90	85	260	86.67

16. List the students' details, their results, and class name.

→ SELECT Student.rollno,
Student.sname,
Student.date of birth,
Student.genders,
Student.city,
Marks.sub1,
Marks.sub2,
Marks.sub3,
Marks.Total,
Marks.Per,
Class.cname

FROM

Student

JOIN

Marks

ON Student.rollno = Marks.rollno

JOIN

Class

ON Student.cid = Class.cid;

rollno	sname	date of birth	genders	city
110	Raj	15 JUL-2002	M	Ahmedabad
120	Mitli	20-MAR-2002	F	Surat
130	Mishu	22-JAN-2002	F	Bharuch
140	Mehru	25-JUN-2002	M	Vadodra
150	Priya	05-DEC-2002	F	Nasari

sub1

85

88

79

70

90

17. Display wise with

→ SELECT

FROM

JOIN

ON Cla

JOIN

ON St

GROUP B

cname

FTBCA

SYBCA

18. Display t any st

→ SELECT

FROM

LEFT JO

ON C

WHERE

result, and

sub1	sub2	sub3	Total	Per	cname
83	78	92	253	85	FYBCA
88	88	85	261	87	FYBCA
79	85	82	246	82	SYBCA
70	75	80	225	75	SYBCA
90	95	85	271	90.33	FYBCA

17. Display the maximum percentage achieved class-wise with class name.

→ SELECT

Class.cname,

MAX(Marks.Per) AS max_percentage

FROM

Class

JOIN

Student

ON Class.cid = Student.cid

JOIN Marks

ON Student.rollno = Marks.rollno

GROUP BY Class.cname;

cname	max_percentage
FYBCA	90.33
SYBCA	82

city
Ahmednagar
Surat
Bharuch
Vadodra
Nasik

18. Display the class detail who doesn't have any student.

→ SELECT Class.cname

FROM Class

LEFT JOIN Student

ON Class.cid = Student.cid

WHERE Student.rollno IS NULL;

Empty because no classes without students

19. Display the student's personal detail whose results are not available

→ SELECT

Student.rollno,
Student.sname,
Student.date_of_birth,
Student.gender,
Student.city,

FROM

Student

LEFT JOIN

Marks

ON

Student.rollno = Marks.rollno

WHERE

Marks.rollno IS NULL;

rollno	sname	date of birth	gender	city
140	Mehru	25-JUN-2002	M	Vadodra

20. Display
Student
of Jee

→ SELECT

FROM

JOIN

ON

WHERE

rollno	sname
220	M
110	R

Students

detail

90. Display the student's detail who belong to Surat city and who were born in the month of July.

→ SELECT

Student.rollno,
Student.sname,
Student.date_of_birth,
Student.gender,
Student.city,
Marks.Total,
Marks.Per

FROM

Student

JOIN

Marks

ON

Student.rollno = Marks.rollno

WHERE

Student.city = 'Surat'

AND

EXTRACT(MONTH FROM Student.date_of_birth) = 7;

rollno	sname	date_of_birth	gender	city	Total	Per
220	Mitli	10-				
110	Raj	15-JUL-2007	M	Surat	255	85