

In a database create the following tables with suitable constraints :

STUDENTS						
AdmNo	Name	Class	Sec	RNo	Address	Phone
1271	Utkarsh Madaan	12	C	1	C-32, Punjabi Bagh	4356154
1324	Naresh Sharma	10	A	1	31, Mohan Nagar	435654
1325	Md. Yusuf	10	A	2	12/21, Chand Nagar	145654
1328	Sumedha	10	B	23	59, Moti Nagar	4135654
1364	Subya Akhtar	11	B	13	12, Janak Puri	NULL
1434	Varuna	12	B	21	69, Rohini	NULL
1461	David DSouza	11	B	1	D-34, Model Town	243554, 98787665
2324	Satinder Singh	12	C	1	1/2, Gulmohar Park	143654
2328	Peter Jones	10	A	18	21/32B, Vishal Enclave	24356154
2371	Mohini Mehta	11	C	12	37, Raja Garden	435654, 6765787

Query:-

Creation of Table:

CREATE TABLE STUDENTS

```
(  
  AdmNo Number(4),  
  Name Varchar(20),  
  Class Number(2),  
  Sec Varchar(1),  
  RNo Number(2),  
  Address Varchar(20),  
  Phone Number(20)  
);
```

Insertion of data into Table:

```
INSERT into STUDENTS VALUES(1271,'Utkarsh Madaan',12,'C',1,'C-32, Punjabi Bagh',4356154);  
INSERT into STUDENTS VALUES(1324,'Naresh Sharma',10,'A',1,'31, Mohan Nagar',435654);  
INSERT into STUDENTS VALUES(1325,'Md. Yusuf',10,'A',2,'12/21,Chand Nagar',145654);  
INSERT into STUDENTS VALUES(1328,'Sumedha',10,'B',23,'59, Moti Nagar',4135654);  
INSERT into STUDENTS VALUES(1364,'Subya Akhtar',11,'B',13,'12, Janak Puri',NULL);  
INSERT into STUDENTS VALUES(1434,'Varuna',12,'B',21,'69, Rohini',NULL);  
INSERT into STUDENTS VALUES(1461,'David Dsouza',11,'B',1,'D-34, Model Town','4356154,  
98787665');  
INSERT into STUDENTS VALUES(2324,'Satinder Singh',12,'C',1,'C-12,1/2 , Gulmohar Park',143654);  
INSERT into STUDENTS VALUES(2328,'Peter Jones',10,'A',18,'C-12,1/2 ,21/32B, Vishal  
Enclave',24356154);  
INSERT into STUDENTS VALUES(2371,'Mohini Mehta',11,'C',12,'37, Raja Garden','435654, 6765787');
```

SPORTS

AdmNo	Game	CoachName	Grade
1324	Cricket	Narendra	A
1364	volleball	M.P.Singh	A
1271	volleball	M.P.Singh	B
1434	Basket Ball	I.Malhotra	B
1461	Cricket	Narendra	B
2328	Basket Ball	I.Malhotra	A
2371	Basket Ball	I.Malhotra	A
1271	Basket Ball	I.Malhotra	A
1434	Cricket	Narendra	A
2328	Cricket	Narendra	B
1364	Basket Ball	I.Malhotra	B

Query:-

Creation of Table:

```
CREATE TABLE SPORTS
(AdmNo Interger(4),
Game Varchar(20),
CoachName Varchar(20),
Grade Char(1)
);
```

Insertion of data into Table:

```
INSERT into SPORTS VALUES(1324, 'Cricket', 'Narendra', 'A');
INSERT into SPORTS VALUES(1364, 'Volleball', 'M.P. Singh', 'A');
INSERT into SPORTS VALUES(1271, 'Volleball', 'M.P. Singh', 'B');
INSERT into SPORTS VALUES(1434, 'Basekt Ball', 'I. Malhotra', 'B');
INSERT into SPORTS VALUES(1461, 'Cricket', 'Narendra', 'B');
INSERT into SPORTS VALUES(2328, 'Basekt Ball', 'I. Malhotra', 'A');
INSERT into SPORTS VALUES(2371, 'Basekt Ball', 'I. Malhotra', 'A');
INSERT into SPORTS VALUES(1271, 'Basekt Ball', 'I. Malhotra', 'A');
INSERT into SPORTS VALUES(1434, 'Cricket', 'Narendra', 'A');
INSERT into SPORTS VALUES(2328, 'Cricket', 'Narendra', 'B');
```

INSERT into SPORTS VALUES(1364, 'Basekt Ball', 'I. Malhotra', 'B')

Based on these tables write SQL statements for the following queries:

- i. Display the lowest and the highest classes from the table STUDENTS.

Query:

```
SELECT min(class) "Lowset Class" , max(Class) "Highest Class" from STUDENTS
```

Output:

Lowset Class	Highest Class
10	12

- ii. Display the number of students in each class from the table STUDENTS.

Query:

```
SELECT class, COUNT(*) "Number of Students" FROM STUDENTS GROUP BY class
```

Output:

Class	Number of Students
10	4
11	3
12	3

- iii. Display the number of students in class 10.

Query:

```
SELECT class, COUNT(*) "Number of Students" FROM STUDENTS WHERE class=10 GROUP BY class
```

Output:

Class	Number of Students
10	4

- iv. Display details of the students of the Cricket team.

Query:

```
SELECT *FROM STUDENTS,SPORTS WHERE STUDENTS.AdmNo = SPORTS.AdmNo AND Game="Cricket"
```

Output:

A...	Name	Class	Sec	RNo	Address	Phone	Adm...	Game	CoachName	Grade
1324	Nares...	10	A	1	31, Moh...	435654	1324	Cricket	Narendra	A
1461	David ...	11	B	1	D-34, M...	43561...	1461	Cricket	Narendra	B
1434	Varuna	12	B	21	69, Rohini	Null	1434	Cricket	Narendra	A
2328	Peter ...	10	A	18	C-12,1/...	24356...	2328	Cricket	Narendra	B

- v. Display the Admission number, name, class, section, and roll number of the students whose grade in Sports table is 'A'.

Query:

```
SELECT STUDENTS.AdmNo "Admission Number", Name, Class, Sec "Section", Rno "Roll No." from STUDENTS,SPORTS Where STUDENTS.AdmNo = SPORTS.AdmNo AND Grade="A"
```

Output:

Admission Number	Name	Class	Section	Roll No.
1324	Naresh Sharma	10	A	1
1364	Subya Akhtar	11	B	13
2328	Peter Jones	10	A	18
2371	Mohini Mehta	11	C	12
1271	Utkarsh Madaan	12	C	1
1434	Varuna	12	B	21

- vi. Display the name and phone number of the students of class 12 who are play some game.

Query:

```
SELECT Game, Name, Phone FROM STUDENTS, SPORTS WHERE STUDENTS.AdmNo=SPORTS.AdmNo AND CLASS=12
```

Output:

Game	Name	Phone
Basekt Ball	Utkarsh Madaan	4356154
Volleball	Utkarsh Madaan	4356154
Basekt Ball	Varuna	Null
Cricket	Varuna	Null

vii. Display the Number of students with each coach.

Query:

```
SELECT Coachname, count(*) "Number of Students" FROM SPORTS GROUP BY Coachname
```

Output:

CoachName	Number of Students
I. Malhotra	5
M.P. Singh	2
Narendra	4

viii. Display the names and phone numbers of the students whose grade is 'A' and whose coach is Narendra.

Query:

```
SELECT Name, Phone "Phone Number" from STUDENTS, SPORTS WHERE  
STUDENTS.AdmNo=SPORTS.AdmNo AND Coachname="Narendra" AND Grade="A"
```

Output:

Name	Phone Number
Naresh Sharma	435654
Varuna	Null

Predict the output of each of the following SQL statements, verify the output by actually entering these statements:

I. SELECT class, sec, count(*) FROM students GROUP BY class, sec;

Output:-

Class	Sec	count(*)
10	A	3
10	B	1
11	B	2
11	C	1
12	B	1
12	C	2

II. SELECT Game, COUNT(*) FROM Sports GROUP BY Game;

Output:-

Game	COUNT(*)
Basekt Ball	5
Cricket	4
Volleball	2

III. SELECT Game, name, address FROM students, Sports WHERE students.admno = sports.admno AND grade = 'A';

Output:-

Game	Name	Address
Cricket	Naresh Sharma	31, Mohan Nagar
Volleball	Subya Akhtar	12, Janak Puri
Basekt Ball	Peter Jones	C-12, 1/2 , '21/32B, Vishal Enclave
Basekt Ball	Mohini Mehta	37, Raja Garden
Basekt Ball	Utkarsh Madaan	C-32, Punjabi Bagh
Cricket	Varuna	69, Rohini

IV. SELECT Game FROM students, Sports WHERE students.admno = sports.admno AND Students.AdmNo = 1434;

Output:-

Game
Basekt Ball
Cricket