ASHRAF SHAIKH ASSIGNMENT NO. 1 11/8/22

1.Create table Student with schema (roll_no, name, division, branch, city, marks)

-> **CREATE TABLE Students(roll_no int,name varchar(40),division varchar(10),branch varchar(20),city varchar(20),marks float);**

2. Insert 10 records to the table students

->

```
INSERT INTO Students VALUES (1,'Ashraf Shaikh','BE','Computer','Jalgaon',80.22);
INSERT INTO Students VALUES (2,'Caleb Curry','BE','Computer','Pune',82);
INSERT INTO Students VALUES (3,'Sandy Sharma','TE','IT','Pune',52);
INSERT INTO Students VALUES (4,'Rohit Sharma','TE','IT','Mumbai',55);
INSERT INTO Students VALUES (5,'Shikhar Dhawan','SE','Chemical','Pune',60);
INSERT INTO Students VALUES (6,'Shreyash Iyer','SE','Computer','Pune',87);
INSERT INTO Students VALUES (7,'Virat Kohli','BE','Computer','Mumbai',97);
INSERT INTO Students VALUES (8,'Alex Carey','BE','Computer','Mumbai',78);
INSERT INTO Students VALUES (9,'Ashraf Shaikh','FE','Computer','Jalgaon',99);
INSERT INTO Students VALUES (10,'Ashraf Shaikh','FE','Computer','Jalgaon',90);
```

3. List all the student names with their corresponding city

->

SELECT name,city FROM Students;

```
+---------------+---------+
| name          | city    |
+---------------+---------+
| Ashraf Shaikh  | Jalgaon |
| Caleb Curry    | Pune    |
| Sandy Sharma   | Pune    |
| Rohit Sharma   | Mumbai  |
| Shikhar Dhawan | Pune    |
| Shreyash Iyer  | Pune    |
| Virat Kohli    | Mumbai  |
| Alex Carey     | Mumbai  |
| Ashraf Shaikh  | Jalgaon |
| Ashraf Shaikh  | Jalgaon |
+---------------+---------+
```

4. List all the distinct names of the students

->

select distinct name FROM Students;

```
+---------------+
| name          |
+---------------+
| Ashraf Shaikh  |
| Caleb Curry    |
| Sandy Sharma   |
| Rohit Sharma   |
| Shikhar Dhawan |
| Shreyash Iyer  |
| Virat Kohli    |
| Alex Carey     |
+---------------+
```

5. List all the records of the students with all the attributes

->

SELECT * FROM Students;

```
+---------+---------------+----------+----------+---------+-------+
| roll_no | name          | division | branch   | city    | marks |
+---------+---------------+----------+----------+---------+-------+
|       1 | Ashraf Shaikh  | BE       | Computer | Jalgaon | 80.22 |
|       2 | Caleb Curry    | BE       | Computer | Pune    |    82 |
|       3 | Sandy Sharma   | TE       | IT       | Pune    |    52 |
|       4 | Rohit Sharma   | TE       | IT       | Mumbai  |    55 |
|       5 | Shikhar Dhawan | SE       | Chemical | Pune    |    60 |
|       6 | Shreyash Iyer  | SE       | Computer | Pune    |    87 |
|       7 | Virat Kohli    | BE       | Computer | Mumbai  |    97 |
|       8 | Alex Carey     | BE       | Computer | Mumbai  |    78 |
|       9 | Ashraf Shaikh  | FE       | Computer | Jalgaon |    99 |
|      10 | Ashraf Shaikh  | FE       | Computer | Jalgaon |    90 |
+---------+---------------+----------+----------+---------+-------+
```

6. List all the students whose marks are greater than 75

->

SELECT name,marks FROM Students WHERE marks > 75;

```
+---------------+-------+
| name          | marks |
+---------------+-------+
| Ashraf Shaikh | 80.22 |
| Caleb Curry   |    82 |
| Shreyash Iyer |    87 |
| Virat Kohli   |    97 |
| Alex Carey    |    78 |
| Ashraf Shaikh |    99 |
| Ashraf Shaikh |    90 |
```

```
+--------------+-------+
```

7. List all the students whose name starts with the alphabet 'S'

->

SELECT name FROM Students WHERE name like 'S%';

```
+---------------+
| name          |
+---------------+
| Sandy Sharma  |
| Shikhar Dhawan |
| Shreyash Iyer  |
+---------------+
```

8. List all the students whose marks are in the range of 50 to 60

->

SELECT name,marks FROM Students WHERE marks BETWEEN 50 AND 60;

```
+---------------+-------+
| name          | marks |
+---------------+-------+
| Sandy Sharma  |    52 |
| Rohit Sharma  |    55 |
| Shikhar Dhawan |    60 |
+---------------+-------+
```

9. List all the students whose branch is 'computer' and city is 'Pune'

->

SELECT name,city,branch FROM Students WHERE branch='Computer' AND city = 'Pune';

```
+--------------+------+----------+
| name         | city | branch   |
+--------------+------+----------+
| Caleb Curry  | Pune | Computer |
| Shreyash Iyer | Pune | Computer |
+--------------+------+----------+
```

10. Update the branch of a student to IT whose roll number is 9

->

UPDATE Students SET branch = 'IT' WHERE roll_no = 9;

SELECT * FROM Students WHERE roll_no = 9;

```
+---------+--------------+----------+--------+---------+-------+
| roll_no | name         | division | branch | city    | marks |
+---------+--------------+----------+--------+---------+-------+
|       9 | Ashraf Shaikh | FE       | IT     | Jalgaon |    99 |
+---------+--------------+----------+--------+---------+-------+
```

11. Delete the student records whose division is 'BE"

->

DELETE FROM Students WHERE division='BE';

SELECT * FROM Students ;

```
+---------+---------------+----------+----------+---------+-------+
| roll_no | name          | division | branch   | city    | marks |
+---------+---------------+----------+----------+---------+-------+
|       3 | Sandy Sharma  | TE       | IT       | Pune    |    52 |
|       4 | Rohit Sharma  | TE       | IT       | Mumbai  |    55 |
|       5 | Shikhar Dhawan | SE      | Chemical | Pune    |    60 |
|       6 | Shreyash Iyer | SE       | Computer | Pune    |    87 |
|       9 | Ashraf Shaikh | FE       | IT       | Jalgaon |    99 |
|      10 | Ashraf Shaikh | FE       | Computer | Jalgaon |    90 |
+---------+---------------+----------+----------+---------+-------+
```

12. Create another table TE_Students with Schema(roll no, name)

->

CREATE TABLE TE_Students (roll_no int , name varchar(40));

INSERT INTO TE_Students VALUES(1,'Ashraf');

INSERT INTO TE_Students VALUES(2,'Swaraj');

INSERT INTO TE_Students VALUES(3,'Adarsh');

INSERT INTO TE_Students VALUES(4,'Sunny');

INSERT INTO TE_Students VALUES(5,'Sangha');

13. List all the roll numbers unionly in the relations Student and TE_Students

->

SELECT roll_no FROM Students UNION ALL SELECT roll_no FROM TE_Students;

```
+---------+
| roll_no |
+---------+
|       3 |
|       4 |
|       5 |
|       6 |
|       9 |
|      10 |
|       1 |
|       2 |
|       3 |
|       4 |
|       5 |
+---------+
```

14. Display name of all the students belonging to relation Student in Upper case

->

SELECT UPPER(name) FROM Students;

```
+---------------+
| UPPER(name)   |
+---------------+
| SANDY SHARMA  |
| ROHIT SHARMA  |
| SHIKHAR DHAWAN |
| SHREYASH IYER |
| ASHRAF SHAIKH |
| ASHRAF SHAIKH |
+---------------+
```

15. Display the binary and hex equivalent of marks for all the students belonging to Student relation

->

SELECT BIN(marks),HEX(marks) FROM Students;

```
+-----------+-----------+
| BIN(marks) | HEX(marks) |
+-----------+-----------+
| 110100    | 34        |
| 110111    | 37        |
| 111100    | 3C        |
| 1010111   | 57        |
| 1100011   | 63        |
| 1011010   | 5A        |
+-----------+-----------+
```

Q1)For facebook users,create a table with fields (id,name,city,.country..age)make sure only age>=18 users are able to register in the table.
facebook_user_registration (
CREATE TABLE
age INT CHECK (age>= 18),
->

CREATE TABLE facebook_user_registration(id int AUTO_INCREMENT primary key,name varchar(40),city varchar(25),country varchar(30),age int CHECK(age>=18));

INSERT INTO facebook_user_registration(name,city,country,age) VALUES('Ashraf','Jalgaon','India',20);
Query OK, 1 row affected (0.01 sec)

INSERT INTO facebook_user_registration(name,city,country,age) VALUES('Eoin','Somerset','England',21);
Query OK, 1 row affected (0.00 sec)

INSERT INTO facebook_user_registration(name,city,country,age) VALUES('Jos','Lancshire','England',17);
ERROR 3819 (HY000): Check constraint 'facebook_user_registration_chk_1' is violated.

INSERT INTO facebook_user_registration(name,city,country,age) VALUE('Sam','Pune','India',16);
ERROR 3819 (HY000): Check constraint 'facebook_user_registration_chk_1' is violated.

INSERT INTO facebook_user_registration(name,city,country,age) VALUES('Alex','Hampshire','England',22);
Query OK, 1 row affected (0.01 sec)

select * from facebook_user_registration;

```
+----+--------+-----------+---------+------+
| id | name   | city      | country | age  |
+----+--------+-----------+---------+------+
|  6 | Ashraf | Jalgaon   | India   |   20 |
|  7 | Eoin   | Somerset  | England |   21 |
|  8 | Alex   | Hampshire | England |   22 |
+----+--------+-----------+---------+------+
```

Q2)Alter facebook_user_registration table -add column email=>and make sure only validated email with "@"&"." are allowed and with age>=18 CHECK

->

```
 ALTER TABLE facebook_user_registration ADD email varchar(50) CHECK (email LIKE '%@%.%');
Query OK, 3 rows affected (0.04 sec)
Records: 3  Duplicates: 0  Warnings: 0

update facebook_user_registration set email = 'ashraf@123.com' where id = 6;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

update facebook_user_registration set email = '123.com' where id = 7;
ERROR 3819 (HY000): Check constraint 'facebook_user_registration_chk_2' is violated.

update facebook_user_registration set email = '123com' where id = 7;
ERROR 3819 (HY000): Check constraint 'facebook_user_registration_chk_2' is violated.


select * from facebook_user_registration;

+----+--------+-----------+---------+------+---------------+
| id | name   | city      | country | age  | email         |
+----+--------+-----------+---------+------+---------------+
|  6 | Ashraf | Jalgaon   | India   |   20 | ashraf@123.com |
|  7 | Eoin   | Somerset  | England |   21 | NULL          |
|  8 | Alex   | Hampshire | England |   22 | NULL          |
+----+--------+-----------+---------+------+---------------+
```