

NOT NULL, UNIQUE, PRIMARY KEY, UNIQUE KEY IN SQL

1. Implement the following Data Definition Language(DDL) SQL Commands with the examples of your choice

a. Create Table with the following constraints:

NOT NULL, UNIQUE, PRIMAY KEY, FOREIGN KEY, CHECK, DEFAULT

INPUT: -

I created Table with name "Persons".

It contains 6 columns with names Rank, First name, Last name, Age, Email ID and Address.

In this I made Rank as my primary key.

First name and Last name has varchar data type with not null constraint.

Age has number as data type with check (Age>18) constraint.

Email ID has unique as constraint as each person has unique ID.

Address has default as constraint.

Then for foreign key I created second table named "Family". It has only 2 column Rank and Type.

As there is Rank in both the table so I linked the using foreign key constraint.

```
1 CREATE TABLE Persons (  
2     Rank number NOT NULL PRIMARY KEY,  
3     FirstName varchar(255) NOT NULL,  
4     LastName varchar(255) NOT NULL,  
5     Age number(20) CHECK (Age>18),  
6     EmailId varchar(255) UNIQUE,  
7     Address char(50) default 'Unknown'  
8 );  
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');  
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');  
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');  
12 SELECT * FROM Persons;  
13  
14 CREATE TABLE Family (  
15     Type char(50),  
16     Rank number,  
17     CONSTRAINT fk_Persons FOREIGN KEY (Rank)  
18     REFERENCES Persons (Rank)  
19 );
```

```
20 INSERT INTO Family VALUES ('Nuclear', '2');  
21 INSERT INTO Family VALUES ('Nuclear', '3');  
22 INSERT INTO Family VALUES ('Nuclear', '1');  
23 SELECT * FROM Family
```

OUTPUT:-

RANK	FIRSTNAME	LASTNAME	AGE	EMAILID	ADDRESS
1	Jaanvi	Gour	21	gourrajesh1998@gmail.com	Noida
2	Rama	Gour	43	ramagour1222@gmail.com	Ghaziabad
3	Rajesh	Gour	54	gourrajesh169@gmail.com	Sahibabad

TYPE	RANK
Nuclear	2
Nuclear	3
Nuclear	1

CHECKING VALIDATION: -

I entered value of age<18, then the check constraint checked the value and dropped that row.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '11', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;

```

Here we can see the check constraint error because violation.

Table created.					
ORA-02290: check constraint (SQL_DDAKXOERCKTOUYALARMHPRPUY.SYS_C0071094025) violated ORA-06512: at "SYS.DBMS_SQL", line 1721					
1 row(s) inserted.					
1 row(s) inserted.					
RANK	FIRSTNAME	LASTNAME	AGE	EMAILID	ADDRESS
2	Rama	Gour	43	ramagour1222@gmail.com	Ghaziabad
3	Rajesh	Gour	54	gourrajesh169@gmail.com	Sahibabad

- b. **Alter Table** for performing the following operations on the existing Table:
Add column, Drop column, Rename column, Add constraints, Drop constraints

OUTPUT: -

I added Occupation column.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;
13 ALTER TABLE Persons ADD Occupation varchar(50);
14 SELECT * FROM Persons;

```

Here in the output Occupation column got added.

Table altered.

RANK	FIRSTNAME	LASTNAME	AGE	EMAILID	ADDRESS	OCCUPATION
1	Jaanvi	Gour	21	gourrajesh1998@gmail.com	Noida	-
2	Rama	Gour	43	ramagour1222@gmail.com	Ghaziabad	-
3	Rajesh	Gour	54	gourrajesh169@gmail.com	Sahibabad	-

I dropped Address column.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;
13 ALTER TABLE Persons ADD Occupation varchar(50);
14 SELECT * FROM Persons;
15 ALTER TABLE Persons DROP COLUMN Address;
16 SELECT * FROM Persons;

```

Here in the output Address column dropped and didn't get printed in output.

Table altered.

RANK	FIRSTNAME	LASTNAME	AGE	EMAILID	OCCUPATION
1	Jaanvi	Gour	21	gourrajesh1998@gmail.com	-
2	Rama	Gour	43	ramagour1222@gmail.com	-
3	Rajesh	Gour	54	gourrajesh169@gmail.com	-

I renamed Email ID column as Contact.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;
13 ALTER TABLE Persons ADD Occupation varchar(50);
14 SELECT * FROM Persons;
15 ALTER TABLE Persons DROP COLUMN Address;
16 SELECT * FROM Persons;
17 ALTER TABLE Persons RENAME COLUMN EmailID TO Contact;
18 SELECT * FROM Persons;

```

Here as we can see Email ID column name changed to Contact.

Table altered.

RANK	FIRSTNAME	LASTNAME	AGE	CONTACT	OCCUPATION
1	Jaanvi	Gour	21	gourrajesh1998@gmail.com	-
2	Rama	Gour	43	ramagour1222@gmail.com	-
3	Rajesh	Gour	54	gourrajesh169@gmail.com	-

c. Truncate Table

INPUT: -

I used truncate command here.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;
13 ALTER TABLE Persons ADD Occupation varchar(50);
14 SELECT * FROM Persons;
15 ALTER TABLE Persons DROP COLUMN Address;
16 SELECT * FROM Persons;
17 ALTER TABLE Persons RENAME COLUMN EmailID TO Contact;
18 SELECT * FROM Persons;
19 TRUNCATE TABLE Persons;
20 SELECT * FROM Persons;

```

Table got truncated.

Table truncated.

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When I tried to print the table after truncating, it showed no data found because truncate drop all the data of table.

no data found

d. Create View

INPUT:-

I created view .

```
1 CREATE TABLE Persons (  
2     Rank number NOT NULL PRIMARY KEY,  
3     FirstName varchar(255) NOT NULL,  
4     LastName varchar(255) NOT NULL,  
5     Age number(20) CHECK (Age>18),  
6     EmailId varchar(255) UNIQUE,  
7     Address char(50) default 'Unknown'  
8 );  
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');  
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');  
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');  
12 SELECT * FROM Persons;  
13 CREATE VIEW Name  
14 AS SELECT * FROM Persons;
```

OUTPUT:-

As we can see it shows like view created.

RANK	FIRSTNAME	LASTNAME	AGE	EMAILID	ADDRESS
1	Jaanvi	Gour	21	gourrajesh1998@gmail.com	Noida
2	Rama	Gour	43	ramagour1222@gmail.com	Ghaziabad
3	Rajesh	Gour	54	gourrajesh169@gmail.com	Sahibabad

[Download CSV](#)
3 rows selected.

View created.

e. Drop Table

INPUT: -

I dropped table.

```

1 CREATE TABLE Persons (
2     Rank number NOT NULL PRIMARY KEY,
3     FirstName varchar(255) NOT NULL,
4     LastName varchar(255) NOT NULL,
5     Age number(20) CHECK (Age>18),
6     EmailId varchar(255) UNIQUE,
7     Address char(50) default 'Unknown'
8 );
9 INSERT INTO Persons VALUES ('01', 'Jaanvi', 'Gour', '21', 'gourrajesh1998@gmail.com', 'Noida');
10 INSERT INTO Persons VALUES ('02', 'Rama', 'Gour', '43', 'ramagour1222@gmail.com', 'Ghaziabad');
11 INSERT INTO Persons VALUES ('03', 'Rajesh', 'Gour', '54', 'gourrajesh169@gmail.com', 'Sahibabad');
12 SELECT * FROM Persons;
13 ALTER TABLE Persons ADD Occupation varchar(50);
14 SELECT * FROM Persons;
15 ALTER TABLE Persons DROP COLUMN Address;
16 SELECT * FROM Persons;
17 ALTER TABLE Persons RENAME COLUMN EmailID TO Contact;
18 SELECT * FROM Persons;
19 TRUNCATE TABLE Persons;
20 SELECT * FROM Persons;
21 DROP TABLE Persons;

```

When I run the drop command it showed like this. This means there is no table in record.

```

Table dropped.

```