```sql
drop database demo

create database demo

use demo

--1) NOT NULL Constraint---------------
use demo
--Create a table “Person” in which
--"ID", "LastName" columns will NOT accept NULL values.
drop table person


CREATE TABLE Person(
ID int NOT NULL,
FirstName varchar(255) NOT NULL,
Age int );


insert into Person values(1,'geeta',null);
--error
insert into Person values(null,'meeta',30);

insert into Person values(2,null,30);



--Create a NOT NULL constraint on the "Age" column
--when the "Persons" table is already created.
select * from person

ALTER TABLE Person
ALTER COLUMN Age int NOT NULL;

select * from person

delete from person where age is null

insert into person values(1,'xyz',null)

insert into person values(3,'mita',25)







--2) CHECK Constraint--------------
drop table Persons1


CREATE TABLE Persons1 (
    ID int,
    LastName varchar(255),
    FirstName varchar(255),
    Age int CHECK (Age>=18)
```

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 );

 --error
insert into Persons1 values (1,'abc','xyz',12)


insert into Persons1 values (1,'abc','xyz',25)

---

drop table Persons1

CREATE TABLE Persons1 (
    ID int ,
    LastName varchar(255),
    FirstName varchar(255) ,
    Age int
 );

ALTER TABLE Persons1
ADD CHECK (Age>=18);

insert into Persons1 values(1,'mita','patel',18);



--3) DEFAULT CONSTRAINT--------------


CREATE TABLE Person2 (
    ID int ,
    LastName varchar(255) ,
    FirstName varchar(255),
    Age int DEFAULT 18,
);


INSERT INTO PERSON2 (ID,LastName,FirstName) VALUES (1,'PATEL','SEEMA')

SELECT * FROM PERSON2

--error
insert into PERSON2 values (2,'sima','shah')

--WITH ALTER
drop table person2

CREATE TABLE Person2 (
    ID int,
    LastName varchar(255) ,
    FirstName varchar(255),
    Age int );


ALTER TABLE Person2
ADD CONSTRAINT df_Age
DEFAULT 18 FOR Age;
```

```
INSERT INTO Person2 (ID,LastName,FirstName) VALUES (1,'PATEL','SEEMA')

SELECT * FROM Person2


--4) UNIQUE KEY----------------------


CREATE TABLE Person3 (
    ID int UNIQUE,
    LastName varchar(255),
    FirstName varchar(255) ,
    Age int
 );


 INSERT INTO Person3 VALUES(1,'PATEL','BHOOMI',19)
 --error
 INSERT INTO Person3 VALUES(1,'PATEL','BHOOMI',19)


 INSERT INTO Person3 VALUES(null,'shah','krishna',19)
 --error
 INSERT INTO Person3 VALUES(null,'patel','krishna',19)
 --WITH ALTER

ALTER TABLE Person3
ADD UNIQUE (FirstName);

INSERT INTO Person3 VALUES(2,'PATEL','mita',19)




--5) primary key-------

drop table Person4

CREATE TABLE Person4 (
    ID int PRIMARY KEY,
    LastName varchar(255),
    FirstName varchar(255),
    Age int
 );

INSERT INTO Person4 VALUES(1,'PATEL','BHOOMI',19)
--error (as ID is not unique)
INSERT INTO Person4 VALUES(1,'PATEL','SITAL',19)



--with alter
drop table person4

CREATE TABLE person4 (
    ID int not null,
    LastName varchar(255),
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    FirstName varchar(255) ,
    Age int
 );

--id column must be not null
ALTER TABLE person4
ADD PRIMARY KEY (ID);

INSERT INTO Person4 VALUES(1,'PATEL','BHOOMI',19)
--error
INSERT INTO Person4 VALUES(1,'PATEL','SITAL',19)
INSERT INTO Person4 VALUES(null,'PATEL','SITAL',19)



--6)---------foriegn key
CREATE TABLE person5 (
    ID int primary key,
    LastName varchar(255),
    FirstName varchar(255) ,
    Age int
 );

CREATE TABLE Orders (
OrderNo int NOT NULL,
PersonID int FOREIGN KEY REFERENCES person5(ID) );

--insert
--error
insert into Orders values(1,5);


--firts insert into person5 (parent table)
insert into person5 values(5,'patel','seema',23)

--now insert in order table
insert into Orders values(1,5);

select * from person5
select * from Orders
```