

Constraints:

Q.1)Basic constraints:Create a table student where

- Stud\_id is compulsory
- Name should not be null
- Email can not be null
- Collegenname can not be null
- Apply default pin to colgAddres

Output:

```
mysql> create database College;
Query OK, 1 row affected (0.04 sec)

mysql> use College;
Database changed
```

```
mysql> create table Student
-> (
-> Stud_id int primary key,
-> name varchar(50) not null,
-> email varchar(50) not null,
-> CollegeName varchar(50) not null,
-> CollegeAddress varchar(50) not null DEFAULT '410206'
-> );
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> desc Studnet;
ERROR 1146 (42S02): Table 'college.studnet' doesn't exist
mysql> desc Student;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
name	varchar(50)	NO		NULL	
email	varchar(50)	NO		NULL	
CollegeName	varchar(50)	NO		NULL	
CollegeAddress	varchar(50)	NO		410206	

5 rows in set (0.00 sec)

```
mysql> alter table Student modify column CollegeAddress int DEFAULT 410206;
Query OK, 0 rows affected (0.11 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> insert into Student values(101,"Harshit","kadamharshit07@gmail.com","SCOE",410205);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> insert into Student values(101,"Harsh","kadamharsh07@gmail.com","DY",410215);
ERROR 1062 (23000): Duplicate entry '101' for key 'student.PRIMARY'
mysql>
```

```
mysql> insert into Student values(102,null,"kadamharsh07@gmail.com","DY",410215);
ERROR 1048 (23000): Column 'name' cannot be null
mysql> insert into Student values(103,"Yash",null,"DY",410215);
ERROR 1048 (23000): Column 'email' cannot be null
mysql> insert into Student values(103,"Yash","abc@gmail.com",null,410285);
ERROR 1048 (23000): Column 'CollegeName' cannot be null
mysql>
```

```
mysql> insert into Student values(103,"Yash","abc@gmail.com","abc",DEFAULT);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from Student;
```

Stud_id	name	email	CollegeName	CollegeAddress
101	Harshit	kadamharshit07@gmail.com	SCOE	410205
102	Harsh	kadamharsh07@gmail.com	DY	410215
103	Yash	abc@gmail.com	abc	410206

3 rows in set (0.00 sec)

```
mysql> insert into Student values (105,"Hitesh","hitesh@gmail.com","VJTI",410938);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from Student;
```

Stud_id	name	email	CollegeName	CollegeAddress
101	Harshit	kadamharshit07@gmail.com	SCOE	410205
102	Harsh	kadamharsh07@gmail.com	DY	410215
103	Yash	abc@gmail.com	abc	410206
104	Sahil	sahil@gmail.com	AC	410206
105	Hitesh	hitesh@gmail.com	VJTI	410938

5 rows in set (0.00 sec)

Q.2) Create table Departments where:

Dept\_id is the primary key and Dept\_name should be unique

Insert Minimum 5 values to show constraint

OUTPUT:

```
mysql> create table department
-> (
-> Dept_id int primary key,
-> Dept_name varchar(50) unique not null
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> desc department;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Dept_id    | int           | NO   | PRI | NULL    |       |
| Dept_name  | varchar(50)   | NO   | UNI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> insert into department values (1001,"HR");
Query OK, 1 row affected (0.04 sec)

mysql> insert into department values (1002,"HR");
ERROR 1062 (23000): Duplicate entry 'HR' for key 'department.Dept_name'
mysql> insert into department values (1002,"Analyst");
Query OK, 1 row affected (0.01 sec)

mysql> insert into department values (1002,"Developer");
ERROR 1062 (23000): Duplicate entry '1002' for key 'department.PRIMARY'
mysql>
```

Start

```
mysql> select * from department;
+-----+-----+
| Dept_id | Dept_name |
+-----+-----+
| 1004    | Admin     |
| 1002    | Analyst   |
| 1003    | Developer |
| 1001    | HR        |
| 1005    | Sales     |
+-----+-----+
5 rows in set (0.00 sec)
```

Q.3) Create Users Table where Username must be unique and password can not be NULL

Insert Minimum 5 values to show constraint

OUTPUT:

```
mysql> create table users
-> (
-> username varchar(50) primary key,
-> password varchar(50) not null
-> );
Query OK, 0 rows affected (0.03 sec)

mysql> desc users;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| username   | varchar(50)   | NO   | PRI | NULL    |       |
| password   | varchar(50)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> insert into users values ("US1001","ASDF");
Query OK, 1 row affected (0.04 sec)

mysql> insert into users values ("US1001",null);
ERROR 1048 (23000): Column 'password' cannot be null
mysql> insert into users values ("US1002","QWER1234");
Query OK, 1 row affected (0.04 sec)

mysql> insert into users values ("US1002","ZXCV");
ERROR 1062 (23000): Duplicate entry 'US1002' for key 'users.PRIMARY'
```

```
mysql> insert into users values ("US1004","tyui1684")
Query OK, 1 row affected (0.04 sec)
```

```
mysql> insert into users values ("US1005","tyui1784")
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from users;
```

username	password
US1001	ASDF
US1002	QWER1234
US1003	ZXCV
US1004	tyui1684
US1005	tyui1784

```
5 rows in set (0.00 sec)
```

Q.4) Create a table Products where

- Price must be greater than 0
- Quantity must be atleast 1

Insert Minimum 5 values to show constraint

OUTPUT:

```
mysql> create table product
-> (
-> p_id int primary key,
-> qty int not null check(qty>=1),
-> price int not null check(price>=0)
-> );
```

Query OK, 0 rows affected (0.07 sec)

```
mysql> desc product;
```

Field	Type	Null	Key	Default	Extra
p_id	int	NO	PRI	NULL	
qty	int	NO		NULL	
price	int	NO		NULL	

3 rows in set (0.00 sec)

```
mysql> insert into product values (1001,3,1000);
```

Query OK, 1 row affected (0.04 sec)

```
mysql> insert into product values (1001,0,1000);
```

ERROR 3819 (HY000): Check constraint 'product\_chk\_1' is violated.

```
mysql>
```

```
mysql> insert into product values (1001,3,1000);
Query OK, 1 row affected (0.04 sec)

mysql> insert into product values (1001,0,1000);
ERROR 3819 (HY000): Check constraint 'product_chk_1' is violated.
mysql> insert into product values (1002,2,0);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> insert into product values (1002,8,0);
ERROR 3819 (HY000): Check constraint 'product_chk_3' is violated.
mysql>
```

```
mysql> insert into product values (1002,8,0);
ERROR 3819 (HY000): Check constraint 'product_chk_3' is violated.
mysql> insert into product values (1002,8,7899);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from product;
```

p_id	qty	price
1001	3	1000
1002	8	7899
1003	5	4000
1004	5	5000
1005	8	6000

5 rows in set (0.00 sec)