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1.Basics SQL Queries to create table

```
mysql> create database 23MCA1030;
Query OK, 1 row affected (0.01 sec)

mysql> use 23MCA1030;
Database changed
mysql> create table 23MCA1030 (RollNumber int Not Null,Name varchar(20) Not Null,Gender varchar(1) Not Null,Age int Not
null,FavouriteSubject text not null);
Query OK, 0 rows affected (0.03 sec)
```

2. Adding Primary Key and viewing it strucutre

```
mysql> alter table 23MCA1030 add primary key(RollNumber);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc 23mca1030;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| RollNumber      | int         | NO   | PRI | NULL    |       |
| Name            | varchar(20) | NO   |     | NULL    |       |
| Gender          | varchar(1)  | NO   |     | NULL    |       |
| Age             | int         | NO   |     | NULL    |       |
| FavouriteSubject | text       | NO   |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

3. Inserting data in SQL

```
mysql> INSERT INTO 23MCA1030 (RollNumber, Name, Gender, Age, FavouriteSubject) VALUES
    ->     (1, 'Rahul', 'M', 24, 'DatabaseSystem'),
    ->     (2, 'Jaya', 'F', 23, 'IOT'),
    ->     (3, 'Vinayak', 'M', 20, 'WebDevelopment'),
    ->     (4, 'Sameer', 'M', 21, 'Python'),
    ->     (5, 'Aishwariya', 'F', 23, 'CyberSecurity'),
    ->     (6, 'Sweta', 'F', 22, 'MachineLearning'),
    ->     (7, 'Vaishali', 'F', 21, 'SoftComputing'),
    ->     (8, 'Abhinav', 'M', 22, 'DataAnalytics'),
    ->     (9, 'Pankaj', 'M', 24, 'CloudComputing'),
    ->     (10, 'Mohan', 'M', 22, 'CyberSecurity'),
    ->     (11, 'Naresh', 'M', 19, 'BlockChain'),
    ->     (12, 'Umesh', 'M', 22, 'CyberSecurity'),
    ->     (13, 'Mahesh', 'M', 24, 'BlockChain'),
    ->     (14, 'Prateek', 'M', 20, 'MachineLearning'),
    ->     (15, 'Tanu', 'F', 23, 'ArtificialIntelligence'),
    ->     (16, 'Khumendra', 'M', 20, 'DatabaseSystem'),
    ->     (17, 'Geetanjali', 'F', 19, 'WebDevelopment'),
    ->     (18, 'Chirag', 'M', 18, 'MachineLearning'),
    ->     (19, 'Kapil', 'M', 22, 'CyberSecurity'),
    ->     (20, 'Shivani', 'F', 20, 'IOT');
Query OK, 20 rows affected (0.00 sec)
Records: 20  Duplicates: 0  Warnings: 0
```

4. SQL Queries to view all data in our table

```
mysql> select * from 23mca1030;
+------------+-----------+--------+-----+----------------------+
| RollNumber | Name      | Gender | Age | FavouriteSubject     |
+------------+-----------+--------+-----+----------------------+
|          1 | Rahul     | M      |  24 | DatabaseSystem       |
|          2 | Jaya      | F      |  23 | IOT                  |
|          3 | Vinayak   | M      |  20 | WebDevelopment       |
|          4 | Sameer    | M      |  21 | Python               |
|          5 | Aishwariya| F      |  23 | CyberSecurity        |
|          6 | Sweta     | F      |  22 | MachineLearning      |
|          7 | Vaishali  | F      |  21 | SoftComputing        |
|          8 | Abhinav   | M      |  22 | DataAnalytics        |
|          9 | Pankaj    | M      |  24 | CloudComputing       |
|         10 | Mohan     | M      |  22 | CyberSecurity        |
|         11 | Naresh    | M      |  19 | BlockChain           |
|         12 | Umesh     | M      |  22 | CyberSecurity        |
|         13 | Mahesh    | M      |  24 | BlockChain           |
|         14 | Prateek   | M      |  20 | MachineLearning      |
|         15 | Tanu      | F      |  23 | ArtificialIntelligence |
|         16 | Khumendra | M      |  20 | DatabaseSystem       |
|         17 | Geetanjali| F      |  19 | WebDevelopment       |
|         18 | Chirag    | M      |  18 | MachineLearning      |
|         19 | Kapil     | M      |  22 | CyberSecurity        |
|         20 | Shivani   | F      |  20 | IOT                  |
+------------+-----------+--------+-----+----------------------+
20 rows in set (0.00 sec)
```

5. Nested Queries and Queries with constraints

```
mysql> SELECT Name
    -> FROM 23MCA1030
    -> WHERE FavouriteSubject = (
    ->        SELECT FavouriteSubject
    ->        FROM 23MCA1030
    ->        WHERE RollNumber = 1
    -> );
+-----------+
| Name      |
+-----------+
| Rahul     |
| Khumendra |
+-----------+
2 rows in set (0.00 sec)
```

```
mysql> SELECT Name, FavouriteSubject FROM 23MCA1030;
+-----------+------------------------+
| Name      | FavouriteSubject       |
+-----------+------------------------+
| Rahul     | DatabaseSystem         |
| Jaya      | IOT                    |
| Vinayak   | WebDevelopment         |
| Sameer    | Python                 |
| Aishwariya| CyberSecurity          |
| Sweta     | MachineLearning        |
| Vaishali  | SoftComputing          |
| Abhinav   | DataAnalytics          |
| Pankaj    | CloudComputing         |
| Mohan     | CyberSecurity          |
| Naresh    | BlockChain             |
| Umesh     | CyberSecurity          |
| Mahesh    | BlockChain             |
| Prateek   | MachineLearning        |
| Tanu      | ArtificialIntelligence |
| Khumendra | DatabaseSystem         |
| Geetanjali| WebDevelopment         |
| Chirag    | MachineLearning        |
| Kapil     | CyberSecurity          |
| Shivani   | IOT                    |
+-----------+------------------------+
20 rows in set (0.00 sec)
```

```
mysql> SELECT Name
    -> FROM 23MCA1030
    -> WHERE Gender = 'M' AND FavouriteSubject = 'CyberSecurity';
+--------+
| Name   |
+--------+
| Mohan  |
| Umesh  |
| Kapil  |
+--------+
3 rows in set (0.00 sec)

mysql> select * from 23mca1030 where age>=21;
+------------+------------+--------+-----+------------------------+
| RollNumber | Name       | Gender | Age | FavouriteSubject       |
+------------+------------+--------+-----+------------------------+
|          1 | Rahul      | M      |  24 | DatabaseSystem         |
|          2 | Jaya       | F      |  23 | IOT                    |
|          4 | Sameer     | M      |  21 | Python                 |
|          5 | Aishwariya | F      |  23 | CyberSecurity          |
|          6 | Sweta      | F      |  22 | MachineLearning        |
|          7 | Vaishali   | F      |  21 | SoftComputing          |
|          8 | Abhinav    | M      |  22 | DataAnalytics          |
|          9 | Pankaj     | M      |  24 | CloudComputing         |
|         10 | Mohan      | M      |  22 | CyberSecurity          |
|         12 | Umesh      | M      |  22 | CyberSecurity          |
|         13 | Mahesh     | M      |  24 | BlockChain             |
|         15 | Tanu       | F      |  23 | ArtificialIntelligence |
|         19 | Kapil      | M      |  22 | CyberSecurity          |
+------------+------------+--------+-----+------------------------+
13 rows in set (0.00 sec)
```