

# Day 1 Resources

## Relational Database Management System (RDBMS)

**Language: Structure Query Language (SQL)**

→ Install the SQL Server first {Where our Database, Tables, Data will be there}

→ Then Install the SQL Server Management Studio (SSMS) {Where we will write the code}

### Topic - 1

#### **|| Creating Database**

```
CREATE DATABASE College;
```

#### **|| Create Table**

```
CREATE TABLE CSE (  
    ID INT PRIMARY KEY,  
    First_Name VARCHAR(50),  
    Last_Name VARCHAR(50)  
);
```

#### **|| Inserting Values**

-- Inserting values into the table CSE

```
INSERT INTO CSE (ID, First_Name, Last_Name)  
VALUES  
(1, 'Raj', 'Sharma'),  
(2, 'Jay', 'Pathak'),  
(3, 'Ravi', 'Shah');
```

### **|| Updating the First\_Name of table CSE where ID is 2**

-- Updating the First\_Name of the student with ID 2 to 'Saurav'

UPDATE CSE SET First\_Name = 'Saurav' WHERE ID = 2;

### **|| Deleting Table**

-- Deleting the table CSE

DROP TABLE CSE;

### **|| Deleting Database**

-- Deleting the database College

DELETE DATABASE college;

### **|| Truncate Table**

-- Truncating the table CSE

TRUNCATE TABLE CSE;

### **|| Drop Table**

-- Dropping the table CSE

DROP TABLE CSE;

## **Topic - 2**

### **Data\_Set:**

[College Data.csv](#)

### **Topics we covered:**

- WHERE Clause
- ORDER BY
- LIKE
- DISTINCT
- Aggregate Function —> AVG Function

**Note:**

- Database Name is: College
- Table Name is: College\_Data (We are importing the table, i.e., College\_Data.csv file from our laptop)

**Filteration Using WHERE CLAUSE****Single Condition**

-- Selecting all records of students who scored 61 in physics

```
SELECT * FROM college_data
```

```
WHERE Physics=61;
```

-- Selecting all records of students who scored greater than or equal to 61 in physics

```
SELECT * FROM college_data
```

```
WHERE Physics>=61;
```

**Multiple Condition**

-- Selecting all records of students who scored 64 in physics and 77 in maths

```
SELECT * FROM college_data
```

```
WHERE Physics=64 AND Maths=77;
```

-- Selecting all records of students who scored either 64 in physics or 77 in maths

```
SELECT * FROM college_data
```

```
WHERE Physics=64 OR Maths=77;
```

OR

-- Another way to select all records of students whose score is between 40 and 90 in physics

```
SELECT * FROM college_data  
WHERE Physics BETWEEN 40 AND 90;
```

## **ORDER BY**

### **Ordering integers**

-- Finding toppers in maths

```
SELECT Name, Maths FROM college_data  
ORDER BY Maths DESC;
```

-- Finding details of students who scored 91 in maths and out of that who topped in chemistry

```
SELECT * FROM college_data  
WHERE Maths=91  
ORDER BY Chemistry DESC;
```

### **Ordering Strings**

-- Finding the details of the students in descending order

```
SELECT Name FROM college_data  
ORDER BY name DESC;
```

-- Finding the details of the students in descending order

```
SELECT Name FROM college_data  
ORDER BY name DESC;
```

-- Getting the details of the students whose name contains 'a'

```
SELECT * FROM college_data  
WHERE name LIKE '%a%';
```

-- Getting details of the students whose name has the second character 'a' from first

```
SELECT * FROM college_data
```

```
WHERE name LIKE '_a%';
```

-- Getting details of the students whose name has the second character 'a' from last

```
SELECT * FROM college_data
```

```
WHERE name LIKE '%a_';
```

-- Getting the details of the students whose name contains 'a' as the 3rd last character

```
SELECT * FROM college_data
```

```
WHERE name LIKE '%a__';
```

## **DISTINCT operator**

### **Uniqueness**

-- Getting distinct sections

```
SELECT DISTINCT section FROM college_data;
```

-- Getting all classes having distinct sections

```
SELECT class, DISTINCT section FROM college_data;
```

## **Aggregate Function —> AVG Function**

-- Average marks in maths among boys

```
SELECT AVG(maths) AS avg_Marks_in_maths FROM college_data
```

```
WHERE Gender='male';
```

-- Average marks in maths and physics among boys for section 'A'

```
SELECT AVG(maths) AS avg_Marks_in_maths, AVG(Physics) AS avg_Marks_in_physics  
FROM college_data  
WHERE Gender='male' AND Section='a';
```

-- Average of all three subjects achieved by the students

```
SELECT name, (Physics + Chemistry + Maths) / 3 AS total_avg_marks FROM  
college_data;
```