**Data Types**

- Data type specifies type of data within a table column.
- Different data types:
    - Character
        - char
        - varchar
        - text
    - Number
        - int
        - bitiny
        - decimal
    - Date
        - date
        - time
        - timestamp

**Char Data Type**

- It is used to store fixed length alpha-numeric data.
- Syntax
  <mark>columnname char(size)</mark>
- When we are trying to store less number of characters than the size specified in char data type then MySQL server internally adds blank space in place of remaining character.
- Example:
  Create Table

  create table emp(
          name char(20)
  );
  Insert Values
  insert into emp values('Ram');

  insert into emp values('Raja');

  Fetch Data

  select length(name),name from emp;

  <mark>SET sql_mode = 'PAD_CHAR_TO_FULL_LENGTH';</mark>

  select length(name),name from emp;

- If we are not giving size then default value is 1.
  insert into emp values('Raja');
- By default, MySQL has the STRICT_TRANS_TABLES mode disabled. When STRICT_TRANS_TABLES is disabled, MySQL will truncate the data to fit the column width without generating an error or warning. This behavior can lead to unexpected data loss.
  SET sql_mode = 'STRICT_TRANS_TABLES';
- To display sql mode
  SELECT @@sql_mode;

**Varchar Data Type**

- It is used to store variable length alpha-numeric data.
- Syntax
  columnname varchar(size)

Example

Create Table

```
create table emp(
        name char(20),
        address varchar(30)
);
```

Insert Record

insert into emp values('Ram','BBSR');

Fetch Record

SET sql_mode = 'PAD_CHAR_TO_FULL_LENGTH';

select length(name), length(address) from emp;

**text data type**

- It is used to store large amounts of textual data such as article content, comments, or forum posts etc.
- Syntax
  columnname text

Example

## Create Table

```
create table emp(
        name char(20),
   address varchar(30),
        profile_message text
);
```

## Insert Record

```
insert into emp values('Ram','BBSR','my life my rules');
```

## Fetch Record

```
SET sql_mode = 'PAD_CHAR_TO_FULL_LENGTH';

select length(name), length(address) from emp;
```


**int data type**

- It is used to store integers only. It does not store floating point (number with decimal value) number.
- Syntax
  ==columnname== int

## Example

## Create Table

```
create table emp(
        empid int
);
```

## Insert Record

```
insert into emp values(101);
```

```
insert into emp values(90.3);
```

```
insert into emp values(90.5);
```

insert into emp values(90.7);

insert into emp values(9090123123);

**decimal data type**

- It is used to store floating value (number with decimal point).
- Syntax
  <mark>columnname</mark> decimal(p,s)
- Precision: This represents the total number of digits in the number, both to the left and right of the decimal point.
- Scale: This represents the number of digits to the right of the decimal point.
- Whenever we are trying to specify more than p-s number of digit before decimal point then we will get error.
- Whenever we are trying to specify more number of digit after decimal point then MySQL server will round that value.

Example

Create Table

```
create table emp(
        name char(20),
        address varchar(30),
        profile_message text(259),
        salary decimal(8,2)
);
```

Insert Record

insert into emp values('Ram','BBSR','my life my rules',300000.20);

insert into emp values('Ram','BBSR','my life my rules',400000.2);

insert into emp values('Ram','BBSR','my life my rules',4000001.2);

insert into emp values('Ram','BBSR','my life my rules',4000001);

insert into emp values('Ram','BBSR','my life my rules',400000);

insert into emp values('Ram','BBSR','my life my rules',4000.901);

```
insert into emp values('Ram','BBSR','my life my rules',4000.908);

insert into emp values('Ram','BBSR','my life my rules',4000.905);
```