DECIMAL

```
CREATE TABLE num (price DECIMAL(5,2));
INSERT INTO num VALUES(145.66);
```

FLOAT & DOUBLE

MySQL uses four bytes for single-precision values and eight bytes for double-precision.

Float – upto ~7 digits, takes 4 bytes of memory

Double – upto ~15 digits, takes 8 bytes of memory

```
CREATE TABLE num (f FLOAT, d DOUBLE);
INSERT INTO num VALUES(145.777565536, 345.854635688);
```

DATE, TIME & DATETIME

DATE format → yyyy-mm-dd

TIME format → HH:MM:SS

DATETIME format → yyyy-mm-dd HH:MM:SS

```
CREATE TABLE time (
   d DATE,
   t TIME,
   dt DATETIME
 );
INSERT INTO time VALUES ('2022-04-17', '21:00:00', '22-08-12 18:15:20');
```

Functions for Date and Time

CURDATE, CURTIME & NOW

CURDATE() – yyyy-mm-dd

CURTIME() – hh:mm:ss

NOW() – yyyy-mm-dd hh:mm:ss

```
SELECT CURDATE();
SELECT CURTIME();
SELECT NOW();
INSERT INTO time VALUES(CURDATE(), CURTIME(), NOW());
```

DAYNAME, DAYOFMONTH, DAYOFWEEK

```
SELECT DAYNAME('2007-01-03');
SELECT DAYOFMONTH('2007-01-03');
SELECT DAYOFWEEK('2007-01-03');
SELECT DAYOFMONTH(CURDATE());
```

```
SELECT DAYOFWEEK(CURDATE());
SELECT MONTHNAME('2012-02-19');
SELECT HOUR('10:05:03');
SELECT HOUR('2:59:59');
SELECT dt, MONTHNAME(dt) FROM time;
SELECT dt, YEAR(dt) FROM time;
SELECT dt, DAYNAME(dt) FROM time;
SELECT t, HOUR(t) FROM time;
SELECT t, MINUTE(t) FROM time;
```

Function for Date Format
Date Formatting
Now we will change the date format
- **Tue Feb 6th**
- **22nd Tue at 22:30:34**
- **2022/06/17**

Format	Description
%a	Abbreviated weekday name (Sun to Sat)
%b	Abbreviated month name (Jan to Dec)
%c	Numeric month name (0 to 12)
%d	Day of the month as a numeric value (01 to 31)
%e	Day of the month as a numeric value (0 to 31)
%f	Microseconds (000000 to 999999)
%H	Hour (00 to 23)
%h	Hour (00 to 12)
%i	Minutes (00 to 59)
%j	Day of the year (001 to 366)
%k	Hour (0 to 23)
%M	Month name in full (Jan to Dec)
%m	Month name as a numeric value (00 to 12)
%W	Weekday name in full (Sunday to Saturday)
%T	Time in 24 hrs format (hh:mm:ss)
%U	A Week where Sunday is the first day of the week (00 to 53)

```
SELECT DATE_FORMAT(NOW(), '%d/%m/%y');
SELECT DATE_FORMAT(NOW(), '%D %a');
SELECT DATE_FORMAT(NOW(), '%D %a at %k');
SELECT dt, DATE_FORMAT(dt, '%D %a at %k') FROM time;
```

Function for Date Maths

```
SELECT DATEDIFF('2022-12-23', '2022-07-30');
SELECT DATE_ADD(NOW(), INTERVAL 1 YEAR);
SELECT DATE_ADD('2022-04-26', INTERVAL 1 YEAR);
SELECT DATE_ADD('2022-04-26', INTERVAL 7 DAY);
SELECT DATE_ADD('2022-04-26', INTERVAL 3 MONTH);
SELECT DATE_SUB(NOW(), INTERVAL 1 YEAR);
SELECT DATE_SUB('2022-04-26', INTERVAL 1 YEAR);
SELECT DATE_SUB('2022-04-26', INTERVAL 7 DAY);
SELECT DATE_SUB('2022-04-26', INTERVAL 3 MONTH);
SELECT TIMEDIFF('21:22:45', '20:34:55');
```

Default & On Update
DEFAULT & ON UPDATE TIMESTAMP

```
CREATE TABLE blogs (
    -> blog VARCHAR(200),
    -> ct DATETIME DEFAULT CURRENT_TIMESTAMP,
    -> ut DATETIME ON UPDATE CURRENT_TIMESTAMP
    -> );
INSERT INTO blogs (blog) VALUES ('The blog about 2023 World Cup');
UPDATE blogs SET blog="The blog about 2024 T20 World Cup";
```