Data Types in MySQL

String Data Types

1. CHAR(size) -- Fixed length string that can contain letters, numbers, and special characters. The size parameter sets the maximum string length, from 0 – 255 with a default of 1.

2. VARCHAR(size) -- Variable length string similar to CHAR(), but with a maximum string length range from 0 to 65535.

3. BINARY(size) -- Similar to CHAR() but stores binary byte strings.

4. VARBINARY(size) -- Similar to VARCHAR() but for binary byte strings.

5. TINYBLOB -- Holds Binary Large Objects (BLOBs) with a max length of 255 bytes.

6. TINYTEXT -- Holds a string with a maximum length of 255 characters. Use VARCHAR() instead, as it’s fetched much faster.

7. TEXT(size) -- Holds a string with a maximum length of 65535 bytes. Again, better to use VARCHAR().

8. BLOB(size) -- Holds Binary Large Objects (BLOBs) with a max length of 65535 bytes.

9. MEDIUMTEXT -- Holds a string with a maximum length of 16,777,215 characters.

10. MEDIUMBLOB -- Holds Binary Large Objects (BLOBs) with a max length of 16,777,215 bytes.

11. LONGTEXT -- Holds a string with a maximum length of 4,294,967,295 characters.

12. LONGBLOB -- Holds Binary Large Objects (BLOBs) with a max length of 4,294,967,295 bytes.

13. ENUM(a, b, c, etc…) -- A string object that only has one value, which is chosen from a list of values that you define, up to a maximum of 65535 values. If a value is added which isn’t on this list, it’s replaced with a blank value instead.

14. SET(a, b, c, etc…) -- A string object that can have 0 or more values, which is chosen from a list of values which you define, up to a maximum of 64 values.

Numeric Data Types

1. BIT(size) -- A bit-value type with a default of 1. The allowed number of bits in a value is set via the size parameter, which can hold values from 1 to 64.

2. TINYINT(size) -- A very small integer with a signed range of -128 to 127, and an unsigned range of 0 to 255. Here, the size parameter specifies the maximum allowed display width, which is 255.

3. BOOL -- Essentially a quick way of setting the column to TINYINT with a size of 1. 0 is considered false, whilst 1 is considered true.

4. BOOLEAN -- Same as BOOL.

5. SMALLINT(size) -- A small integer with a signed range of -32768 to 32767, and an unsigned range from 0 to 65535. Here, the size parameter specifies the maximum allowed display width, which is 255.

6. MEDIUMINT(size) -- A medium integer with a signed range of -8388608 to 8388607, and an unsigned range from 0 to 16777215. Here, the size parameter specifies the maximum allowed display width, which is 255.

7. INT(size) -- A medium integer with a signed range of -2147483648 to 2147483647, and an unsigned range from 0 to 4294967295. Here, the size parameter specifies the maximum allowed display width, which is 255.

8. INTEGER(size) -- Same as INT.

9. BIGINT(size) -- A medium integer with a signed range of -9223372036854775808 to 9223372036854775807, and an unsigned range from 0 to 18446744073709551615. Here, the size parameter specifies the maximum allowed display width, which is 255.

10. FLOAT(p) -- A floating point number value. If the precision (p) parameter is between 0 to 24, then the data type is set to FLOAT(), whilst if it's from 25 to 53, the data type is set to DOUBLE(). This behavior is to make the storage of values more efficient.

11. DOUBLE(size, d) -- A floating point number value where the total digits are set by the size parameter, and the number of digits after the decimal point is set by the d parameter.

12. DECIMAL(size, d) -- An exact fixed point number where the total number of digits is set by the size parameters, and the total number of digits after the decimal point is set by the d parameter.

13. DEC(size, d) -- Same as DECIMAL.

3. Date/Time Data Types

1. DATE -- A simple date in YYYY-MM–DD format, with a supported range from ‘1000-01-01’ to ‘9999-12-31’.

2. DATETIME(fsp) -- A date time in YYYY-MM-DD hh:mm:ss format, with a supported range from ‘1000-01-01 00:00:00’ to ‘9999-12-31 23:59:59’. By adding DEFAULT and ON UPDATE to the column definition, it automatically sets to the current date/time.

3. TIMESTAMP(fsp) -- A Unix Timestamp, which is a value relative to the number of seconds since the Unix epoch (‘1970-01-01 00:00:00’ UTC). This has a supported range from ‘1970-01-01 00:00:01’ UTC to ‘2038-01-09 03:14:07’ UTC.
4. By adding DEFAULT CURRENT_TIMESTAMP and ON UPDATE CURRENT TIMESTAMP to the column definition, it automatically sets to current date/time.

5. TIME(fsp) -- A time in hh:mm:ss format, with a supported range from ‘-838:59:59’ to ‘838:59:59’.

6. YEAR -- A year, with a supported range of ‘1901’ to ‘2155’.