MySQL Datatypes

- Char (max 255 characters)
  (default width 1)

- Varchar (max 65,535 characters)
  (no default width)(width has to be specified)

Stored outside the row:-

- Tinytext (max 255 characters)
- Text (max 65,535 characters)
- Mediumtext (max 16,777,215 characters) (16 MB)

- Longtext (max 4,294,967,295 characters)
  (4 GB)

- (Width does not have to be specified for all above datatypes)

- Binary (fixed length binary string)(max 255 Bytes of binary data)(e.g. small images)

  (width need not be specified)

- Varbinary (variable length binary string)(max 65,535 Bytes of binary data)(e.g. large images)

  (no default width)(width has to be specified)

- Both are stored as character strings of 1’s and 0’s

Stored outside the row:-

- Tinyblob (max 255 Bytes of binary data)
- Blob (max 65,535 Bytes of binary data)
- Mediumblob (max 16,777,215 Bytes of binary data)(16 MB)

- Longblob (max 4,294,967,295 Bytes of binary data)(4 GB)

- (Width does not have to be specified in all of the above datatypes)

- Enum (an enumeration; each column value may be assigned one enumeration member)(can define max 65,535 value)

  (e.g. S,L,XL,etc.)(e.g. size enum ('S','L'), etc.)

  (data can be enter in lowercase but display is always upper case)

- Set (max 64 distinct members)(e.g. Vanilla, Strawberry, etc.)(user can choose more than 1 options)(e.g. flavour set(‘V’,’C’,’S’)

  (insert into …. Values((‘V’,’C’));

Integer Types (Exact value):-

- Signed or Unsigned:-

- Tinyint (-128 to 127) or (0 to 255) (1 Byte)
  (e.g. age int unsigned)(by default it is signed)

- Smallint (-32,768 to 32,767) or (0 to 65,535)
  (2 Bytes)

- Mediumint (-8388608 to 8388607) or (0 to 16777215) (16 million) (3 Bytes)

- Int (-2147483648 to 2147483647) or (0 to 4294967295) (4 billion) (4 Bytes)

  (e.g. sal int unsigned)(by default it is signed)

- Bigint (-9223372036854775808 to 9223372036854775807) or (0 to 18446744073709551615) (18 quintillion)

  (8 Bytes)

Floating-Point Types (Approximate value):-

- Float (-3.402823466E+38 to -1.175494351E-38 and 1.175494351E-38 to 3.402823466E+38)(Single precision)

  (When specified alone, precision can range from 0 to 53. If the scale is defined, too, precision may be up to 255, scale up to 253)(Upto 7 decimals)

- Double (-1.7976931348623157E+308 to -2.2250738585072014E-308, 0, and 2.2250738585072014E-308 to 1.7976931348623157E+308)(Upto 15 decimals)

Fixed-Point Types (Exact Value):-

- Decimal (stores double as a string)(e.g. "653.7")(max number of digits is 65)

  (used when it is important to preserve exact precision, for example with monetary data)

- Bit (used to store bit field values)(e.g. 7 = b'111' and 128 = b'10000000')(upto 64 digits)(padded on LHS with zeros)

- Boolean (True and False evaluate to 1 and 0 respectively)

  (e.g. MS Boolean)

  (can insert true, false, 1, or 0)

  (output will display 1 or 0)

Date and Time Datatypes:-

- Date (YYYY-MM-DD)('1000-01-01' to '9999-12-31')(Year values in the range 70-99 are converted to 1970-1999)(Year values in the range 00-69 are converted to 2000-2069)

- Time (hh:mm:ss) or ('HHH:MM:SS') (TIME values may range from '-838:59:59' to '838:59:59')

- Datetime (YYYY-MM-DD hh:mm:ss)('1000-01-01 00:00:00' to '9999-12-31 23:59:59')

- Year (YYYY)(1901 to 2155)

- Timestamp (YYYY-MM-DD hh:mm:ss)(1970 is the epoch year)(stored in UTC -> Coordinated Universal Time)

  ('1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' UTC)

  (upto microseconds) (6 digits) (stored in UTC)

- Maximum 4096 columns per table provided the row size <= 65,535 bytes

- No limit on number of rows per table provided the table size <= 64 Terabytes