

Research

What are the ten data types within MySQL, how are they used and how are they described?

1. TEXT

1. This data type takes up 64 kilobytes to store within the database
2. Is able to store up to 65535 of characters
3. Is Ideal for storing a page of information like an article

2. CHAR

1. A size parameter needs to be set for this data type when instantiated CHAR(#)
2. When using CHAR if a value is assigned that doesn't use up the full character space available within the column by using white space
3. Ex. CHAR(5) = 'hi' Displays as 'hi '
4. This datatype can be good for storing a text value with a determined length of characters like a phone number

3. ENUM

1. This will store predefined strings and only allow the specified value to be stored
2. If an invalid value is entered it will store an empty string
3. Useful for only allowing users to select a predetermined value such as rareness of a steak

4. INT

1. Signed attribute allows negative, zero and positive numbers while an unsigned attribute only allows zero and positive
2. Only allows whole number with no decimal places
3. Takes 4 bytes to store
4. Minimum values: SIGNED: -2147483648 Unsigned: 0
5. Maximum values SIGNED: 2147483647 Unsigned: 4294967295

5. BOOLEAN

1. Can only store the values of 1 referring to true and 0 referring to false
2. Used for logical operation
3. Can be used to store if a user has an address within the United States to determine shipping cost or logistics

6. FLOAT

1. Requires only 4 bytes for storage
2. Ensures accuracy for up to 7 decimal places
3. allows a total of 23 number to be stored within the datatype
4. Recently only allows a signed attribute as the unsigned attribute has been depreciated as of MySQL version 8.0.17
5. Instantiation of the data type requires two parameters FLOAT(m, d)
 1. m: the total amount of numbers to be stored
 2. d: Amount of numbers after the decimal place
6. Ex. FLOAT(7, 3) Displays 1234.765
7. DOUBLE
 1. A lot like float but can ensure accuracy up to 15 decimal places
 2. Takes 8 bytes to store
8. BIT
 1. Stores only binary values
 2. When created accepts one parameter that specifies how many binary values can be assigned
 3. If not assigned default amount that is able to be stored is 1
 4. This can be used to specify if some one works during the week by giving the data type the parameter of 7 and then having one mean they have work and 0 being they don't work
9. JSON
 - 1.
10. DATETIME
 1. Store both the date and time
 2. in the format of YYYY-MM-DD HH:MM:SS
 3. Useful for storing the date and time an error occurred within an application

Resources: <https://blog.devart.com/mysql-data-types.html>