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Prompts

1. What are ten different data types MySQL provides?

There are three primary categories of data types in MySQL: String, Numeric, and Date & Time. Examples of String Data Types in MySQL are CHAR(size), VARCHAR(size), and TEXT(size). Examples of Numeric Data Types in MySQL are BOOL/BOOLEAN, INT/INTEGER(size), and DEC/DECIMAL(size, d). Examples of Date & Time Data Types in MySQL are DATE, DATETIME(fsp), TIMESTAMP(fsp), and YEAR.

2. How is each data type you described used, and what makes it unique?

For the String Data Types I mentioned, CHAR(size), VARCHAR(size), and TEXT(size), this is how they work. CHAR works for a fixed length for string data, in which the fixed length is determined when you set the size in the code in a range from 0 to 255, with the default being 1. VARCHAR works for a variable length for string data, in which you set the maximum length value in the size variable in the code, which can range from 0 to 65535. TEXT holds a string with a set maximum length value of 65535 bytes.

For the Numeric Data Types I mentioned, BOOL/BOOLEAN, INT/INTEGER(size), and DEC/DECIMAL(size, d), this is how they work. BOOL/BOOLEAN takes the data type given, and if it is zero, it considers the value as false, while if it is nonzero, it considers it as true. INT/INTEGER stores numerical data values that can range from -2147483648 to 2147483647 if signed or from 0 to 4294967295 if unsigned, though the size value inputted in the code specifies the maximum length for the displayed value (up to 255). DEC/DECIMAL specifies a fixed-point number based on the size and digit (d) values given in the coding process, where the maximum size value is 65 and the maximum digit value is 30. It defaults at 10 for size and 0 for digit.

For the Date & Time Data Types I mentioned, DATE, DATETIME(fsp), TIMESTAMP(fsp), and YEAR, this is how they work. DATE formats a date in the YYYY-MM-DD format, ranging from 1000-01-01 to 9999-12-31. DATETIME is a combination of the date and time, in the YYYY-MM-DD hh:mm:ss format, ranging from 1000-01-01 00:00:00 to 9999-12-31 23:59:59. If you add DEFAULT and ON UPDATE to the column definition, the value will automatically update to the

current time and date when called upon. `TIMESTAMP` follows a similar format as `DATETIME`, though it takes more specifically from the Unix Epoch, and thus its supported range is 1970-01-01 00:00:01 UTC to 2038-01-09 03:14:07 UTC. To have it automatically update to the current time and date, you need to add `DEFAULT CURRENT_TIMESTAMP` and `ON UPDATE CURRENT_TIMESTAMP` to the column definition. `YEAR` outputs the data in a four-digit format, ranging from 1901 to 2155, along with 0000. MySQL 8.0 doesn't support `YEAR` in a two-digit format.

Sources

- https://www.w3schools.com/mysql/mysql_datatypes.asp