-Research 10 different datatypes used in MySQL and write how they are used and what makes them -unique.

The data type **DATETIME** has values that shows both the date and the time. The values of DATETIME display as ‘YYY-MM-DD HH:MM: SS’ format. DATETIME has the benefit with the ability to automatically update to the current date and time

*Syntax*: column\_name DATE;

*Example*: Date\_of\_join DATETIME;

The data type **DATE** is similar to DATETIME, however its values contain the date but no time parts. The format of DATE displays as ‘YYY-MM-DD’. The supported range is '1000-01-01' to '9999-12-31'. The supported range is '1000-01-01 00:00:00' to '9999-12-31 23:59:59'. You can compare two dates easily if there is no compound involved.

*Syntax*: column\_name DATE;

*Example*: age DATE;

The data type **TIMESTAMP**, like the DATATIME, also shows both the date and the time values. TIMESTAMP has a range of '1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' UTC. A benefit of TIMESTAMP is that MYSQL is able to convert values from the current time zone to UTZ for storage and then back for retrieval; this only works with the data type TIMESTAMP. DATETIME and TIMESTAMP also benefit with the ability to automatically update to the current date and time. If given null or no value, TIMESTAMP inserts the current time.

*Syntax*: column\_name TIMESTAMP;

*Example*: login\_dt TIMESTAMP;

The data type **CHAR** holds a fixed length string (can contain letters, numbers and special characters as well. The fixed size is specified in the parenthesis. It can store up to 255 characters. CHAR is beneficial if you want to store short strings.

*Syntax*: column\_name CHAR (20);

*Example*: name CHAR (20);

The data type **VARCHAR** holds a variable length string (can contain letters, numbers, and special characters). The maximum size is specified in the parenthesis. It can store up to 255 characters. If a value greater than 255 is entered it will convert to a TEXT type. VARCHAR helps performance because it saves space.

*Syntax*: column\_name VARCHAR (size);

*Example*: name VARCHAR (50);

The data type **TEXT** holds a string with a maximum length of 65,535 characters. (benefits by storing large amounts of text, however, not quite as much as mediumtext or longtext though, as they store an abundance.) For example, TEXT would be good for like messages or Blogs.

*Syntax: column\_name TEXT;*

*Example* address TEXT;

The data type **INT** holds whole numbers between32,768 AND 32,767 either it is negative or positive. It cannot hold decimal numbers. The maximum number of digits may be specified in parenthesis. INT has big values.

*Syntax*: column\_name INT (size);

*Example* roll INT (5);

The data type **DECIMAL** holds fixed point numbers. The maximum range is 1-65 and 0-30 on the right side of the decimal point. The DECIMAL has accurate fixed-point numbers. The DECIMAL has two arguments (precision and scale). Precision is the maximum number of digits and the scale is the maximum number of those digits after the decimal point.

*Syntax*: column\_name DECIMAL (size, p);

*Example*: price DECIMAL (4, 2);

The data type **DOUBLE** is usually used as the default data type for decimal values, generally the default choice. The default value is 0.0d. DOUBLE should not be used for precise values such as currency. DOUBLE comes from the fact that it’s double precise. It has 8 bytes of information. The DOUBLE will result in at least 15 decimal digits.

*Example*: double 543.45134574563;

The data type **FLOAT** is mainly used to save memory in large arrays of floating point numbers. FLOAT stores approximate numeric data values. It is also used for single precision. The default value for FlOAT is 0.0f. FLOAT should not be used for precise values such as currency. FlOAT comes from the fact that the decimal point is floating w/in the number. FlOAT holds 8 bytes of information. The FLOAT will result in 6 decimal digits.

*Example*: SALARY\_AMOUNT FLOAT(7,4);

<https://www.techonthenet.com/mysql/datatypes.php>

<http://www.peachpit.com/articles/article.aspx?p=30885&seqNum=7>

<https://www.w3resource.com/mysql/mysql-data-types.php>