1. What are ten different data types MySQL provides?

https://www.javatpoint.com/mysql-data-types

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

1) Whole Number Types: INT
2) Fixed Precision Types: DECIMAL
3) Date and Time Data Type
4) Character Types
5) Text Types
6) Enumerated Type
7) Boolean Type
8) Binary Large Object Data Types (BLOB)
9) Spatial Data Types
10) JSON Data Type

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

1) Whole Number Types: INT

MySQL DataType	*Java Type*	*Size in Bit*
TINYINT	*byte*	*8*
SMALLINT	*short*	*16*
MEDIUMINT		*24*
INT, INTEGER	*int*	*32*
BIGINT	*long*	*64*

2) Fixed Precision Types: DECIMAL

An unpacked floating-point number that cannot be unsigned. In unpacked decimals, each decimal corresponds to one byte. Defining the display length (m) and the number of decimals (d) is required. Numeric is a synonym for decimal.

3) Date and Time Data Type

DATETIME: YYYY- MM -DD hh: mm: ss;

TIMESTAMP: Format: YYYY-MM-DD hh:mm:ss. The supported range is from '1970-01-01 00:00:01' UTC to '2038-01-09 03:14:07' UTC. Automatic initialization and updating to the current date and time can be specified using DEFAULT CURRENT_TIMESTAMP and ON UPDATE CURRENT_TIMESTAMP in the column definition.

DATE: YYYY- MM -DD;

TIME: hh: mm: ss;

YEAR: YYYY;

4) Character Types

CHAR(size): A FIXED length string (can contain letters, numbers, and special characters). The size parameter specifies the column length in characters - can be from 0 to 255. Default is 1.

VARCHAR(size): A VARIABLE length string (can contain letters, numbers, and special characters). The size parameter specifies the maximum column length in characters - can be from 0 to 65535.

5) Text Types

TINYTEXT: Holds a string with a maximum length of 255 characters.

TEXT(size): Holds a string with a maximum length of 65,535 bytes.

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

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

6) Enumerated Type

ENUM(val1, val2, val3, ...): A string object that can have only one value, chosen from a list of possible values. You can list up to 65535 values in an ENUM list. If a value is inserted that is not in the list, a blank value will be inserted. The values are sorted in the order you enter them.

7) Boolean Type

BOOL: Zero is considered as false, nonzero values are considered as true.

BOOLEAN: Equal to BOOL.

8) Binary Large Object Data Types (BLOB)

BLOB(size): For BLOBs (Binary Large OBjects). Holds up to 65,535 bytes of data.

MEDIUMBLOB: For BLOBs (Binary Large OBjects). Holds up to 16,777,215 bytes of data.

LONGBLOB: For BLOBs (Binary Large OBjects). Holds up to 4,294,967,295 bytes of data.

9) Spatial Data Types

GEOMETRY: It is a point or aggregate of points that can hold spatial values of any type that has a location.

POINT: A point in geometry represents a single location. It stores the values of X, Y coordinates.

POLYGON: It is a planar surface that represents multisided geometry. It can be defined by zero or more interior boundary and only one exterior boundary.

LINESTRING: It is a curve that has one or more point values. If it contains only two points, it always represents Line.

GEOMETRYCOLLECTION: It is a kind of geometry that has a collection of zero or more geometry values.

MULTILINESTRING: It is a multi-curve geometry that has a collection of linestring values.

MULTIPOIN: It is a collection of multiple point elements. Here, the point cannot be connected or ordered in any way.

MULTIPLYGON: It is a multisurface object that represents a collection of multiple polygon elements. It is a type of two-dimensional geometry.

10) JSON Data Type

MySQL provides support for native JSON data type from the version v5.7.8. This data type allows us to store and access the JSON document quickly and efficiently.

The JSON data type has the following advantages over storing JSON-format strings in a string column:

It provides automatic validation of JSON documents. If we stored invalid documents in JSON columns, it would produce an error.

It provides an optimal storage format.

3. What is your favorite thing you learned this week?

My favorite thing I learned this week is how to use JDBC to create, read, update and delete date on database.