**Instructions:**

Please share your answers filled in line in the Word document. Submit code separately wherever applicable.

Please ensure you update all the details:

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_ Batch ID:** \_\_\_\_\_\_\_\_\_\_\_

**Topic:** Data types

1. **Create a database with a sales table containing data types like int, varchar, char ,date, time, timestamp, Boolean, decimal, text ?**

**Ans:**

create database sales\_dtype;

use sales\_dtype;

CREATE TABLE sales\_dtype (

order\_id INT,

product\_name VARCHAR(50),

customer\_name CHAR(50),

order\_date DATE,

ship\_time TIME,

order\_timestamp TIMESTAMP,

is\_returned BOOLEAN,

sales\_total DECIMAL(10, 2),

order\_notes TEXT

);

1. **Insert 10 random values in the table ?**

Ans:

INSERT INTO sales\_dtype (order\_id, product\_name, customer\_name, order\_date, ship\_time, order\_timestamp, is\_returned, sales\_total, order\_notes)

VALUES

(1001, 'Product A', 'John Smith', '2023-04-11', '14:30:00', '2023-04-11 14:30:00', FALSE, 49.99, 'Order notes for Product A'),

(1002, 'Product B', 'Sara Johnson', '2023-04-11', '15:00:00', '2023-04-11 15:00:00', FALSE, 99.99, 'Order notes for Product B'),

(1003, 'Product C', 'Michael Davis', '2023-04-12', '10:30:00', '2023-04-12 10:30:00', FALSE, 149.99, 'Order notes for Product C'),

(1004, 'Product D', 'Emily Anderson', '2023-04-13', '13:45:00', '2023-04-13 13:45:00', TRUE, 199.99, 'Order notes for Product D'),

(1005, 'Product E', 'Daniel Rodriguez', '2023-04-14', '16:20:00', '2023-04-14 16:20:00', FALSE, 249.99, 'Order notes for Product E'),

(1006, 'Product F', 'Jessica Williams', '2023-04-14', '18:15:00', '2023-04-14 18:15:00', FALSE, 299.99, 'Order notes for Product F'),

(1007, 'Product G', 'David Brown', '2023-04-15', '11:00:00', '2023-04-15 11:00:00', FALSE, 349.99, 'Order notes for Product G'),

(1008, 'Product H', 'Laura Perez', '2023-04-15', '14:30:00', '2023-04-15 14:30:00', TRUE, 399.99, 'Order notes for Product H'),

(1009, 'Product I', 'Matthew Lee', '2023-04-16', '12:00:00', '2023-04-16 12:00:00', FALSE, 449.99, 'Order notes for Product I'),

(1010, 'Product J', 'Julia Martinez', '2023-04-17', '9:15:00', '2023-04-17 09:15:00', FALSE, 499.99, 'Order notes for Product J');

1. **Change the data type of the existing column from DECIMAL (10,2) to FLOAT ?**

Ans:

ALTER TABLE sales\_dtype

MODIFY COLUMN sales\_total FLOAT;

1. **Change the data type of the existing column from Text to Varchar?**

Ans:

ALTER TABLE sales\_dtype

MODIFY COLUMN order\_notes varchar(255);

1. **What is “BLOB” Data Type in SQL, what are different types of BLOB?**

Ans:

BLOB stands for Binary Large Object and it is a data type in SQL that is used to store large amounts of binary data, such as images, audio, video, or other multimedia files, in a database table. BLOBs can be used to store any type of data that is not text-based, including binary data such as images, sound files, or multimedia files.

The BLOB data type is typically used when the size of the data being stored exceeds the maximum size allowed for other data types, such as VARCHAR or TEXT. The maximum size of a BLOB column depends on the database management system being used and the version of that system, but typically it ranges from several kilobytes to several gigabytes.

In addition to the standard BLOB data type, some database systems, such as MySQL, offer variations of the BLOB data type that allow for more precise control over the size and characteristics of the binary data being stored. Here are some common variations of the BLOB data type:

1. TINYBLOB: This is a variation of the BLOB data type that allows for the storage of small binary objects, with a maximum size of 255 bytes.

2. MEDIUMBLOB: This is a variation of the BLOB data type that allows for the storage of medium-sized binary objects, with a maximum size of 16 megabytes.

3. LONGBLOB: This is a variation of the BLOB data type that allows for the storage of large binary objects, with a maximum size of 4 gigabytes.

4. BINARY: This is a data type that is similar to BLOB, but is used for fixed-length binary data. The size of the data is specified when the column is created, and any data that is inserted into the column must be exactly the same length.

5. VARBINARY: This is a variation of the BLOB data type that is used for variable-length binary data. The size of the data can vary, up to a maximum size that is specified when the column is created.

1. **Write different character data types and different numerical data types?**

Ans:

Character Data Types

· CHAR

· VARCHAR

· NCHAR

· CLOB

· LONG

· TEXT

Numerical Data Types

· INT

· DATE

· BINARY

· NUMERIC

· REAL

· FLOAT