

***DATA ENGINEERING***

***WEEK-02***

***TASK-05***

*Submitted to*

***Sir Muhammad Ahtisham***

*Submitted by*

***Aabra Malik***

***Data Types In SQL***

In SQL, data types define the type of data that can be stored in a table column or variable. The data type of a column determines the kind of data that can be inserted into it, and also the operations that can be performed on that column.

SQL supports a wide range of data types, including numerical, string, date/time, and Boolean types, among others. Here are some examples of data types in SQL:

***Numeric data types***

These data types are used to store numeric values, such as integers, decimals, and floating-point numbers. Some examples include:

***INT:*** This data type is used to store whole numbers, such as -2, 0, and 42.

***DECIMAL:*** This data type is used to store decimal numbers with fixed precision and scale, such as 3.14 or -123.45.

***FLOAT:*** This data type is used to store floating-point numbers with a variable number of digits, such as 3.14159 or -1.23E-4.

***Example***

CREATE TABLE students (

id INT,

gpa DECIMAL(3,2),

age FLOAT

);

***String data types***

These data types are used to store textual data, such as names, addresses, and descriptions. Some examples include:

***CHAR:*** This data type is used to store fixed-length strings, such as 'hello' or 'world'.

***VARCHAR:*** This data type is used to store variable-length strings, such as 'John' or 'Doe'.

***TEXT:*** This data type is used to store large text values, such as articles or blog posts.

***Example***

CREATE TABLE products (

id INT,

name VARCHAR(50),

description TEXT

);

***Date/time data types***

These data types are used to store date and time values, such as birthdays, appointments, and deadlines. Some examples include:

***DATE:*** This data type is used to store date values, such as '2023-04-09'.

***TIME:*** This data type is used to store time values, such as '13:45:00'.

***TIMESTAMP:*** This data type is used to store date and time values, such as '2023-04-09 13:45:00'.

***Example***

CREATE TABLE appointments (

id INT,

name VARCHAR(50),

date DATE,

time TIME,

timestamp TIMESTAMP

);

***Boolean data types***

These data types are used to store true/false or yes/no values. Some examples include:

***BOOLEAN:*** This data type is used to store true/false values, such as true or false.

***Example***

CREATE TABLE employees (

id INT,

name VARCHAR(50),

is\_manager BOOLEAN

);

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