Single Table Queries (Part 3)

**1) What is a data type? Why do we have data types?**

-A data type is a quality that defines the type of data of any object. We have data types so that we can organize and store data values in an organized and consistent format. Data types also affect storage capabilities, so we need to ensure the correct type of data is being stored appropriately.

**2) What is a collation? Name four elements of a collation.**

-Collation is a property of character data that encapsulates several aspects: language support, sort order, case sensitivity, accent sensitivity, and more. The four elements of a collation are instance, database, column, and expression.

**3) How would you strip whitespace from a string? For example, suppose you had “ Dave ” but wanted only “Dave”.**

-You would strip whitespace from a string by using the TRIM() function. For example LTRIM(‘ Dave).

**4) Suppose you wanted to make a list of every college and university that was called an institute from the college table? Write the query.**

-SELECT [College Name]

FROM [College Table]

WHERE [College Name] LIKE N’%Institute%’;

**5) How would you find out the index of the first space in a string? For example, the index of the first space in “Barack Hussein Obama” would be 7.**

-In order to find the index of the first space in a string, you would use the CHARINDEX function. In this case, it would read SELECT CHARINDEX(‘ ‘, ‘Barack Hussein Obama’);

**6) How would you select just the first name in a list of the presidents? First names can be an arbitrary length, from “Cal” to “Benjamin.”**

-SELECT SUBSTRING(PresidentName, 1, CHARINDEX(‘ ‘ , PresidentName) -1) as Firstname

FROM [presidents]

**7) Payments are due exactly 30 days from the data of the last function. Write a select query that calculates the date of the next payment. Pretend we want to update a column in a database that contains the date of the next payment. We will do this when we write UPDATE queries.**

-SELECT dueDate DATEADD(DD,30,@DATE) as DataAdd;

**8) Suppose your son or daughter wants to run a query every day that tells them the number of days until their 16th birthday. Write a select query that does this.**

-SELECT DATEDIFF(day, ‘20210117’, ‘20230412’) as DateDiff;

**9) What function returns the current date? This is very useful in a table that maintains a log of events, such as user logins.**

-The function that returns the current date is the GETDATE() function. This function will return the current database system date and time.