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CIS 435L

**Unit 3 Lab Assignment: Querying tables using data types and functions**

**Terms:**

1. **Four data type categories**

There are four data types given by Murach and Syverson – string, numeric, date/time, and large value. “The string data types are intended for storing a string of one or more characters, which can include letters, numbers, symbols, or special characters. The numeric data types are intended for storing numbers that can be used for mathematical calculations. The temporal data types are used to store dates and times. These data types are typically referred to as date/time, or date, data types (Murach & Syverson, 2012).” The large value data types allow the user to store very large data, such as images – up to 2 GB of data.

1. **Implicit vs explicit data conversion**

According to Murach and Syverson, “When SQL Server performs a conversion automatically, it’s called an implicit conversion. To perform an explicit conversion, you use the CAST and CONVERT functions.” Implicit conversions happen “naturally”, and explicit conversions must be called.

1. **Define two string functions and how to use them**

REVERSE – this string function allows the user to take a string and reverse the actual order of the characters within that string. If you have a string that says, “Hello. It is nice to meet you” then that string reversed would read “uoy teem ot ecin si tI .olleH”

SELECT REVERSE (‘Hello. It is nice to meet you’);

CONCAT – this function allows the user to add values to existing strings. It will treat all those values as strings though.

SELECT CONCAT(‘Jennifer’, ‘ ‘, ‘DeVore’);

1. **Define two numeric functions and how to use them**

AVG – this function returns that averaged value of an expression given.

SELECT AVG(InvoiceTotal) AS AverageTotal From Products;

SQUARE – this function returns the mathematical square of a value given.

SELECT SQUARE(12225);

1. **Define two date/time functions and how to use them**

DATEDIFF – this function will return the difference between two date values given.

SELECT DATEDIFF(day, ‘2020/10/05’, ‘2018/05/08’) AS TimeAsStudent;

GETDATE – this function will return the current date and time as given by the database when retrieved.

SELECT GETDATE();

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| **Exercise 1** | **Write a query that retrieves the length of all Descriptions in the ProductDescription table.** |
| **Exercise 2** | **Write a query that retrieves the Currency Code and the first three letters of the Currency Name in a column labeled AB.**  Use the Sales.Currency table. |
| **Exercise 3** | **Write a query to list the Name, number of days between the Product Sell Start Date and the Product Sell End Date named Days for Sell, where Sell End Date is a valid date.**  Use the Production.Product table. |
| **Exercise 4** | **Write a query to display the BusinessEntityID and HireDate of the employees from the HumanResources.Employee table.**  The month and the year need to be displayed. |
| **Exercise 5** | **Write a query to display the first initial with a period, middle initial with a period and last name in a column named Person Name.**  Eliminate all nulls.  Sort in descending order. Use the Person.Person table.  See example below:  Person Name ------------- J. D. Zack |
| **Exercise 6** | **Write a query to list the number of Organization Level for each Job Title.**  Sort by Job Title Count. Use the HumanResources.Employee table.  **THIS EXERCISE WAS VERY BADLY WORDED. IF YOU WANT ORGANIZATION LEVEL, JOBTITLE, AND A COUNT OF EACH JOB TITLE THIS IS THE ANSWER**    **IF YOU JUST WANT ORGANIZATION LEVEL AND JOB TITLE THIS IS THE ANSWER** |