**Excel Assignment – 19**

**1. What are the data types used in VBA**

VBA data types can be segregated into two types. Numeric Data Types. Non-numeric Data Types

* **Numeric Data Types**

| **Type** | **Storage** | **Range of Values** |
| --- | --- | --- |
| Byte | 1 byte | 0 to 255 |
| Integer | 2 bytes | -32,768 to 32,767 |
| Long | 4 bytes | -2,147,483,648 to 2,147,483,648 |
| Single | 4 bytes | -3.402823E+38 to -1.401298E-45 for negative values 1.401298E-45 to 3.402823E+38 for positive values. |
| Double | 8 bytes | -1.79769313486232e+308 to -4.94065645841247E-324 for negative values 4.94065645841247E-324 to 1.79769313486232e+308 for positive values. |
| Currency | 8 bytes | -922,337,203,685,477.5808 to 922,337,203,685,477.5807 |
| Decimal | 12 bytes | +/- 79,228,162,514,264,337,593,543,950,335 if no decimal is use +/- 7.9228162514264337593543950335 (28 decimal places) |

Non- Numeric Data Type

| **Data Type** | **Bytes Used** | **Range of Values** |
| --- | --- | --- |
| String (fixed Length) | Length of string | 1 to 65,400 characters |
| String (Variable Length) | Length + 10 bytes | 0 to 2 billion characters |
| Boolean | 2 bytes | True or False |
| Date | 8 bytes | January 1, 100 to December 31, 9999 |
| Object | 4 bytes | Any embedded object |
| Variant(numeric) | 16 bytes | Any value as large as Double |
| Variant(text) | Length+22 bytes | Same as variable-length string |

**2.What are variables and how do you declare them in VBA? What happens if you don’t declare a variable**

**Where the data is generally stored in the computer's memory. Is Called variable.**

**You declare a variable to specify its name and characteristics. The declaration statement for variables is the Dim Statement. Its location and contents determine the variable's characteristics. For variable naming rules and considerations, see Declared Element Names..**

**3. What is a range object in VBA? What is a worksheet object?**

Range is a property in VBA that helps specify a particular cell, a range of cells, a row, a column, or a three-dimensional range. In the context of the Excel worksheet, the VBA range object includes a single cell or multiple cells spread across various rows and columns.

**The Worksheet. Range Propety in VBA is used to specify a cell or group of cells in Excel. It returns the Worksheet. Range Object that represents the cell or cells and has a variety of methods available to it such as Select, Font, Copy and PasteSpecial to name but a few.**

**4. What is the difference between worksheet and sheet in excel**

 all Worksheets are Sheets, but not all Sheets are Worksheets.

A **worksheet** is a collection of cells where all your data and formulas are stored. Each **cell** can contain either data (numeric or text) or a formula.

**.5. What is the difference between A1 reference style and R1C1 Reference style? What are the advantages and disadvantages of using R1C1 reference style**

In the A1 reference style, you have the column name as an alphabet and the row name as a number and when you select the A1 cell that means you are in column A and row 1. But in R1C1 both column and row are in numbers.

Advantage:

**The R1C1 reference style is useful if you want to compute row and column positions in macros. In the R1C1 style, Excel indicates the location of a cell with an "R" followed by a row number and a "C" followed by a column number.**

**Disadvantage:**

 disadvantage is that there's very few people who know how to read r1c1 style. Even most that do know it probably don't regularly use it.

6.When is offset statement used for in VBA? Let’s suppose your current highlight cell is A1 in the below table. Using OFFSET statement, write a VBA code to highlight the cell with “Hello” written in it.

A B C

1 25 354 362

2 36 6897 962

3 85 85 Hello

4 96 365 56

5 75 62 2662

=offset(A1,4,3)

It is a reference function in Excel. The OFFSET function returns a reference to a range that is a specific number of rows and columns from another range or cell. It is one of the most important notions in Excel.

**=offset(A1,4,3)**