**Advance Excel Assignment 19**

1. What are the data types used in VBA?

Ans. Below is a list of common VBA variables (known as data types) used in macros and their purposes:

* Integer: Used to store number values that won’t take on decimal form.
* Single: Used to store number values that may take on decimal form. Can also contain integers.
* Double: A longer form of the single variable. Takes up more space, but needed for larger numbers.
* Date: Stores date values.
* String: Stores text. Can contain numbers, but will store them as a text (calculations cannot be performed on numbers stored as a string)
* Boolean: Used to store binary results (True/False, 1/0)

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

Ans. A variable is defined as storage in the computer memory that stores information to execute the VBA code. The type of data stored in the variable depends on the type of data of the variable. For example, if a user wants to store integers in the variable, the data type will be an integer.

When declaring variables, usually use a Dim statement. A declaration statement can be placed within a procedure to create a procedure-level variable. Or it may be placed at the top of a module, in the Declarations section, to create a module-level variable.

The following example creates the variable and specifies the String data type.

Dim strName As String

If you don't declare a variable, then VBA treats it as a Variant data type that takes the largest space in memory (16 bytes to 22 bytes) when compared to other data types.

1. What is a range object in VBA? What is a worksheet object?

Ans. 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 object is a member of the Worksheets collection. The Worksheets collection contains all the Worksheet objects in a workbook.

The Worksheet object is also a member of the Sheets collection. The Sheets collection contains all the sheets in the workbook (both chart sheets and worksheets.

1. What is the difference between worksheet and sheet in excel?

Ans. In essence, all Worksheets are Sheets, but not all Sheets are Worksheets. There are different types of Sheets:

Worksheet – the sheet with the gridlines and cells

Chart – the sheet which contains a single chart

DialogSheet – an Excel 5 dialog sheet. These are effectively defunct as they have been replaced by VBA UserForms

Macro sheets – A sheet containing Excel 4 macros. These were replaced by VBA in 1995.

International Macro sheet – A sheet containing an internationally compatible Excel 4.

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

Ans. 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.

1. 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

Ans. Range ("A1").Select

Range("RangeName").Select

Cells(3, 4).Select 'Selects Row 3, Column 4, i.e. cell D3

For i = 1 to 10

Cells(i, 1).value = i ' fill A1 through A10 with the value of i

Next i