Assignment - 19

1. What are the data types used in VBA?

There 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 is needed for larger numbers.
- Date: Stores date values.
- String: Stores text. Can contain numbers, but will store them as text (calculations cannot be performed on numbers stored as a string)
- Boolean: Used to store binary results (True/False, 1/0).

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

Variables can be declared as one of the following data types: Boolean, Byte, Integer, Long, Currency, Single, Double, Date, String (for variable-length strings), String * length (for fixed-length strings), Object, or Variant.

To declare a variable, type Dim, the variable name, and the variable type.

If we don't specify the type of variable, as shown in the first example at the top of this post, VBA declares the variable as a Variant type. A Variant can accept any type of variable.

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

A 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).

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

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.
- Dialog Sheet: an Excel 5 dialog sheet. These are effectively defunct as they have been replaced by VBA User Forms.
- 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 macro (also replaced in 1995).

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.

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.

Whereas using R1C1, they are all identical. So, this potentially means that wherever write a formula in that column it will be the same, no need to think about which row or column is in. This is particularly helpful when writing VBA code.
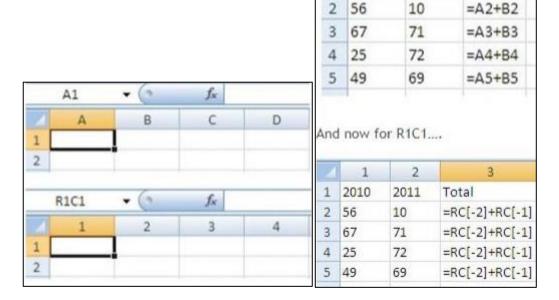
First, the familiar A1 style:

	A	B	C
1	2010	2011	Total
2	56	10	=A2+B2
3	67	71	=A3+B3
4	25	72	=A4+B4
5	49	69	=A5+B5

And now for R1C1....

	1	2	3
1	2010	2011	Total
2	56	10	=RC[-2]+RC[-1]
3	67	71	=RC[-2]+RC[-1]
4	25	72	=RC[-2]+RC[-1]
5	49	69	=RC[-2]+RC[-1]

A1

	A	B	C	D
1				
2				

R1C1

	1	2	3	4
1				
2				

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

VBA Offset function one may use to move or refer to a reference skipping a particular number of rows and columns. The arguments for this function in VBA are the same as those in the worksheet.


```
Sub Highlight()
Range("C3").Select
End Sub
```

BHAVANA