Assignment - 19

1. What are the data types used in VBA?

Answer :

| **Data Type** | **Stored** | **Range of Values** |
| --- | --- | --- |
| Byte | 1 Byte | 0 to 255 |
| Integer | 2 Bytes | -32,768 to 32,767 |
| Single | 4 Bytes | -3.402823E38 to -1.401298E-45 for negative values, 1.401298E-45 to 3.402823E38 for positive values |
| Long | 4 Bytes | -2,147,483,648 to 2,147,483,648 |
| Double | 8 Bytes | -1.79769313486232e+308 to -4.94065645841247E-324 for negative values, 4.94065645841247E-324 to 1.79769313486232e+308 for positive values. |
| Decimal | 14 Bytes | +/-79,228,162,514,264,337,593,543,950,335 for no decimal points,+/-7.9228162514264337593543950335 for 28 places to the right of the decimal |
| Date | 8 Bytes | January 1, 100 to December 31, 9999 |
| Currency | 8 Bytes | -922,337,203,685,477.5808 to 922,337,203,685,477.5807 |
| String (variable length) | 10 bytes added to the string length | 0 to 2 billion characters |
| String (fixed length) | string length | 1 to approximately 65,400 |
| Variant (with numbers) | 16 bytes | Any numeric value up to the range of a **Double** |
| Variant (with characters) | 22 bytes + string length (24 bytes on 64-bit systems) | Same range as for variable-length **String** |
| Object | 4 Bytes | Object in VBA |
| Boolean | 2 Bytes | True or False |

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

Answer :

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.

A variable is declared to specify its name and characteristics. The declaration statement for variables is the Dim Statement. Its location and contents determine the variable's characteristics.

Variables are used in almost all computer program and VBA is no different. It's a good practice to declare a variable at the beginning of the procedure. It is not necessary, but it helps to identify the nature of the content (text, data, numbers, etc.).

Storage Space: 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?

Answer :

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. Many of the properties, methods, and events of the Worksheet are identical or similar to members provided by the Application or Workbook objects. Excel provides a Sheets collection as a property of a Workbook object.

-----------------------------------------------------------------------------------------------------------------------------------------

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

Answer :

**Sheets**: collection of the Sheets of all types  
**Worksheets**: collection of Sheets of type Worksheet

-----------------------------------------------------------------------------------------------------------------------------------------

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

Answer:

n 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.

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

-----------------------------------------------------------------------------------------------------------------------------------------

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

The OFFSET function returns a reference to a range that is a specific number of rows and columns from another range or cell. VBA OFFSET is used with RANGE object in VBA.

