Advance Excel Assignment 17

1. What are modules in VBA and describe in detail the importance of creating a module?

A module is the fundamental syntactic unit of VBA source code. The physical representation of a module is implementation dependent but logically a VBA module is a sequence of Unicode characters that conform to the VBA language grammars. A module consists of two parts: a module header and a module body. A module is the fundamental syntactic unit of VBA source code. The physical representation of a module is implementation dependent but logically a VBA module is a sequence of Unicode characters that conform to the VBA language grammars. A module consists of two parts: a module header and a module body. The module header is a set of attributes consisting of name/value pairs that specify the certain linguistic characteristics of a module. While a module header could be directly written by a human programmer, more typically a VBA implementation will mechanically generate module headers based upon the programmer's usage of implementation specific tools. A module body consists of actual VBA Language source code and most typically is directly written by a human programmer.

2. What is Class Module and what is the difference between a Class Module and a Module?

Class module in VBA can be defined as the module that helps to create your own objects with your own properties and methods like worksheets and range objectives of excel. Modules are collections of methods and constants. They cannot generate instances. Classes may generate instances (objects), and have per-instance state (instance variables).

3. What are Procedures? What is a Function Procedure and a Property Procedure?

A procedure tells the application how to perform a specific task. Use procedures to divide complex code tasks into more manageable units. To create a procedure by writing code. Open the module for which you want to write the procedure. A Function procedure is a series of Visual Basic statements enclosed by the Function and End Function statements. A Function procedure is similar to a Sub procedure, but a function can also return a value. A property procedure is a series of Visual Basic statements that allow a programmer to create and manipulate custom properties. Property procedures can be used to create read-only properties for forms, standard modules, and class modules.

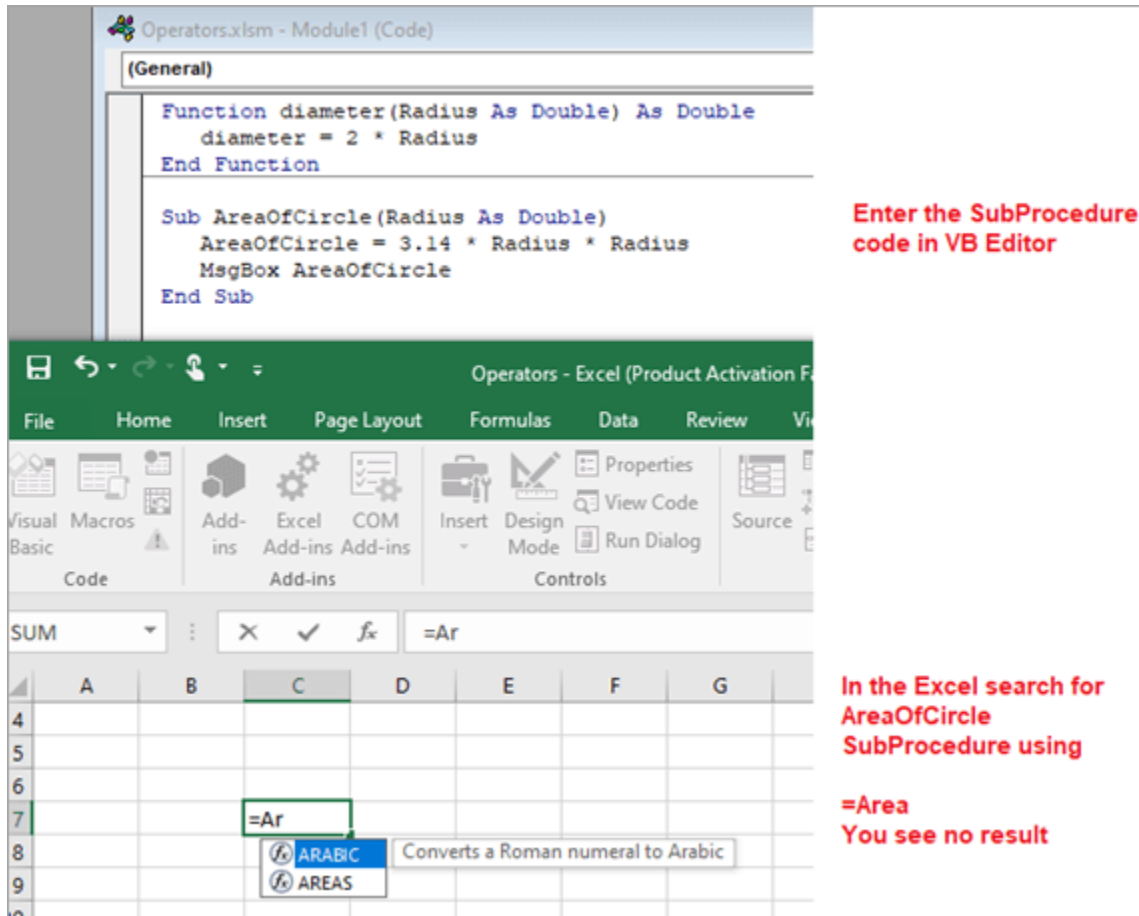**4. What is a sub procedure and what are all the parts of a sub procedure and when are they used?**

A Sub procedure is a series of Visual Basic statements enclosed by the Sub and End Sub statements that performs actions but doesn't return a value. A Sub procedure can take arguments, such as constants, variables, or expressions that are passed by a calling procedure. Let's create a sub-procedure to find the area of a circle.

```vba
Sub AreaOfCircle(Radius As Double)

        AreaOfCircle = 3.14 * Radius * Radius

End Sub
```

Head to Excel sheet and type =Area.

In the above code, though you have a sub-procedure as AreaOfCircle, it is not shown in the worksheet. The reason is Sub Procedure does not return any value. Hence your worksheet is not identifying the AreaOfCircle.

You can use Sub to clear the cell contents, Delete row, etc.

So let's go ahead and write a code to clear the contents from rows 3 to 5.

```vba
Sub clearCell()

    Dim myRow As Range

    Set ClearRange = Worksheets("Sheet1").Range("A3:D5")

    ClearRange.Clear

End Sub
```
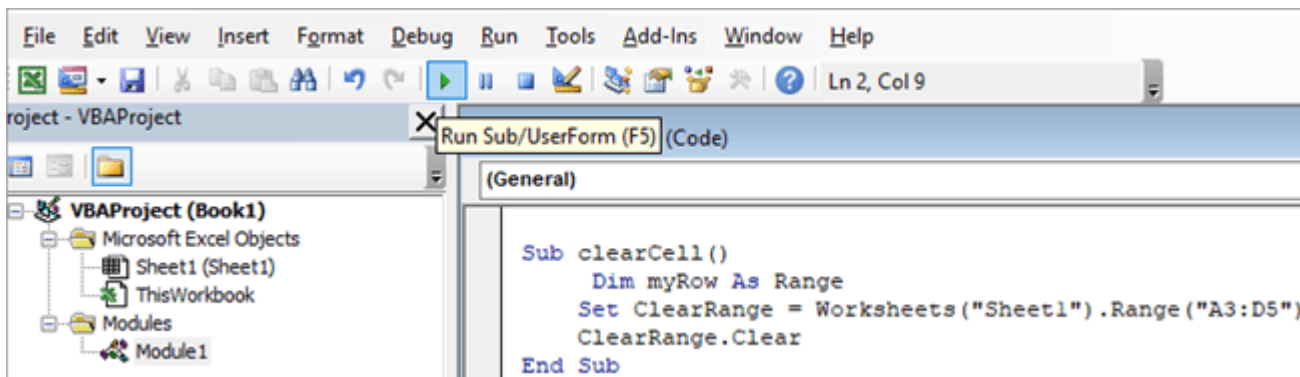
Let's create an Excel with data from A1 to D10

Col1	Col2	Col3	Col4
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000
6	60	600	6000
7	70	700	7000
8	80	800	8000
9	90	900	9000

To execute a sub procedure, click on the title of the code i.e. Sub clearCell(), Or select the entire code and hit on **Run Sub/Userform (ShortCut F5).**

File Edit View Insert Format Debug Run Tools Add-Ins Window Help

Ln 2, Col 9

roject - VBAProject

Run Sub/UserForm (F5) (Code)

(General)

VBAProject (Book1)
  Microsoft Excel Objects
    Sheet1 (Sheet1)
    ThisWorkbook
  Modules
    Module1

```
Sub clearCell()
    Dim myRow As Range
    Set ClearRange = Worksheets("Sheet1").Range("A3:D5")
    ClearRange.Clear
End Sub
```

After executing the code, the resulting table will be as shown below.

	A	B	C	D
1	Col1	Col2	Col3	Col4
2	1	10	100	1000
3				
4				
5				
6	5	50	500	5000
7	6	60	600	6000
8	7	70	700	7000
9	8	80	800	8000
10	9	90	900	9000

5. How do you add comments in a VBA code? How do you add multiple lines of comments in a VBA code?

Steps you need to follow to add a comment in a VBA code:

1. First, click on the line where you want to insert the comment.

2. After that, type an APOSTROPHE using your keyboard key.

3. Next, type the comment that you want to add to the code.

4. In the end, hit enter to move to the new line and the comment will turn green.

The easiest way is to select all the lines and then use the comment button from the toolbar or you can also add an APOSTROPHE at the starting of each line. The moment you click the comment button it will convert all the lines into a multi-line comment block.