**Excel Assignment - 17**

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

**Ans:** The modules are organised into 3 different types:

Standard modules – most of your code will go into this type of module. ...

Object modules – these type of modules hold the code the is unique to that individual workbook

or worksheet. ...

Class modules – this module is used to create objects at run time.

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.

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

**Ans:** Class Modules – Classes are stored in the Class Modules folder and allow us to write macros to create objects, properties, and methods.  Classes can be used when we want to create custom objects or collections that don't exist in the Object Library

Difference between a Class Module and a Module:

|  |  |  |
| --- | --- | --- |
| Sr No | Class Module | Module |
| 1 | Class modules (.CLS file name extension) are the foundation of object-oriented programming in Visual Basic. You can write code in class modules to create new objects. | Standard modules (.BAS file name extension) are containers for procedures and declarations commonly accessed by other modules within the application. |
| 2 | Class module data, on the other hand, exists separately for each instance of the class (that is, for each object created from the class). | There's never more than one copy of a standard module's data. This means that when one part of your program changes a public variable in a standard module, and another part of your program subsequently reads that variable, it will get the same value. |
| 3 | Class module data for each instance of a class exists only for the lifetime of the object; it's created when the object is created, and destroyed when the object is destroyed. | Data in a standard module has program scope — that is, it exists for the life of your program |
| 4 | Public variables in a class module can only be accessed if you have an object variable containing a reference to a particular instance of a class. | Variables declared Public in a standard module are visible from anywhere in your project |
| 5 | You can't use callbacks in standard modules because they have static base addresses (within the process memory space) | You can use callbacks in standard modules because they have static base addresses (within the process memory space) |

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

**Ans:** 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. You can create a Sub, Function, or Property procedure.

Function 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.

Property Procedure: 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.

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

**Ans:** 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.

Parts of Sub Procedure with their use:

1. Sub statement - Declares the name, [arguments](https://learn.microsoft.com/en-us/office/vba/language/glossary/vbe-glossary#argument), and code that form the body of a Sub [procedure](https://learn.microsoft.com/en-us/office/vba/language/glossary/vbe-glossary#procedure).
2. Name - Sub procedure-name is the declaration statement and the first line of the procedure. This is paired with the End Sub statement. All code statements must be written between these two statements.
3. Parentheses- The guidelines for using parentheses apply, whether or not you use named arguments. When you use named arguments, you can list them in any order, and you can omit optional arguments.
4. End Sub keyword-end sub control statement defines a subroutine which can be called upon from a call statement.
5. How do you add comments in a VBA code? How do you add multiple lines of comments in a VBA code?

**Ans:** 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.

Add multiple lines of comments in a VBA code: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.