**Excel Assignment – 17**

1. What are modules in VBA and describe in detail the importance of

creating a module?

There are actually 5 different modules where we can store VBA code in a workbook.  We can see each of these in the Project Explorer window (Ctrl+R) in the VB Editor.  Here is a quick overview of each object type.

1. **Code Modules** – The code modules are the most common place we store macros.  The modules are located in the Modules folder within the workbook.
2. **Sheet Modules** – Each sheet in the workbook has a sheet object in the Microsoft Excel Objects folder.  Double-clicking the sheet object opens its code module where we can add event procedures (macros).  These macros run when the user takes a specific action in the sheet.
3. **ThisWorkbook Module** – Each workbook contains one ThisWorkbook object at the bottom of the Microsoft Excel Objects folder.  We can event based macros that run when the user takes actions in/on the workbook.
4. **Userforms** – Userforms are interactive forms or windows where we can add controls like drop-down menus, list boxes, check boxes, buttons, etc.  Each userform is stored in the Forms folder and has a code module where we can put macros that will run when the form is open, and/or the user interacts with the controls on the form.
5. **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.

When we double-click or right-click> View Code (keyboard shortcut: F7) on any of these objects in the Project Explorer Window, the code window opens on the right side of the VB Editor.  The code window looks the same for each of the objects.  It is just a big blank canvas where we can type code.

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

Module and a Module?

A class is a type. You can use this type like any other type ( String , Integer , Date , FileInfo ...) to declare variables, parameters, properties, and function return types. Whereas modules are static. I.e. Data stored in a module exists exactly once.

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

Procedure?

A property procedure is a series of Visual Basic statements that manipulate a custom property on a module, class, or structure. Property procedures are also known as *property accessors*.

Visual Basic provides for the following property procedures:

* A Get procedure returns the value of a property. It is called when you access the property in an expression.
* A Set procedure sets a property to a value, including an object reference. It is called when you assign a value to the property.
* A Function procedure is a series of Visual Basic statements enclosed by the Function and End Function statements. The Function procedure performs a task and then returns control to the calling code. When it returns control, it also returns a value to the calling code.
* Each time the procedure is called, its statements run, starting with the first executable statement after the Function statement and ending with the first End Function, Exit Function, or Return statement encountered.
* You can define a Function procedure in a module, class, or structure. It is Public by default, which means you can call it from anywhere in your application that has access to the module, class, or structure in which you defined it.
* A Function procedure can take arguments, such as constants, variables, or expressions, which are passed to it by the calling code
  1. 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**. The Sub procedure performs a task and then returns control to the calling code, but it does not return a value to the calling code.

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

**Step 1:**Click on the line where you want to insert a comment.

**Step 2:**Type an **Apostrophe( ‘ )**at the start of a line.

**Step 3:** Write the comment you want.

**Step 4:** Press Enter and you fill find the comment written to be green.

**Adding Multi-Line comment in VBA**

We can add comments in multiple lines. We use multi-line comments when we have to add points in our description or the description is long.

**Step 1:** Keep your cursor on the Tool Bar.

**Step 2:** Right-click on the Tool Bar and click on edit. An extended Tool Bar appears. Drag and place it in the already existing Tool Bar.

**Step 3:**Select the text you want to comment on and click on Comment Block.

The entire selected text got commented.

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

**Step 1:**Go to **Toolbar**and right-click on it. A menu appears.

**Step 2:**Click on **Customize**and a dialogue box appears.

**Step 3:**Go to **edit**in the left-side scrollable list.

**Step 4:** Find **Comment Block**and **Uncomment Block**in the right-side scrollable list.

**Step 5:** Click on **Comment Block**and drag it to the menu bar. It will look like a button in the menu bar.

**Step 6:** Click on **Uncomment Block**and drag it to the menu bar. It will look like a button in the menu bar.

**Step 7:**With the dialogue box opened. Go to the **comment block** and right-click on it. A menu appears.

**Step 8:** Click inside the **Name** and add a character **&**at the starting of**Comment Block**. Then click somewhere outside the appeared menu.

**Step 9:** Again, right-click on the **Comment Block** and select **Image and Text**.

**Step 10:**Repeat steps 7, 8, 9 for **Uncomment Block**i.e. right-click on the **Uncomment Block**and add **&**in the **Name**. Also, select the **Image and Text** in the appeared menu. At last, close the dialogue box.

**Step 11:**A shortcut for comment and uncomment has been created in the VBA code editor. To comment on a line the shortcut is **Alt + C** and to uncomment a line the shortcut is **Atl + U**. You can also use the **Comment Block** and**Uncomment Block** buttons to comment on a line. Enter the text you want to comment on.

**Step 12:** To comment on the written line. You can click **Alt + C.**

**Step 13:**To uncomment a line, you can press **Alt + U.**