



**CENTRE FOR DIPLOMA STUDIES**  
**MULTIMEDIA CONCEPT**

**LABORATORY INSTRUCTION SHEET**

<b>Course Code</b>	<b>DAT 21103</b>
<b>Lab Practical Title</b>	<b>MENU AND DIALOG BOXES</b>
<b>Lab Practical</b>	<b>4</b>

 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	2 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

## Learning Outcome(s)

At the end of this practical session, you should be able to:

- i. Create menus and submenus as an easy way to make an option or navigate multiple forms in an application.
- ii. Use Dialog Boxes in an application.
- iii. Design an effective interface with user convenient features.
- iv. Set property of object control during design time and runtime.

## Problem:

- Develop a VB application that provides selection from menus and submenus to navigate the application and perform specific tasks.
- **3 main menus - File, Edit and View.**
  - **File Menu - 3 submenus (Open, Save and Exit).**
    - open menu - open a file
    - save menu - save a file
    - exit menu - exit the application
  - **Edit Menu - 4 submenus (Undo, Cut, Copy and Paste)**
    - Two **textboxes** will be used to make the **edit menu** works.
  - **View Menu - 2 submenus (View Textboxes and View Image).**
    - A **textbox and an image** will be used to work with **view menu**.

Solve the problem using the following guided tasks:

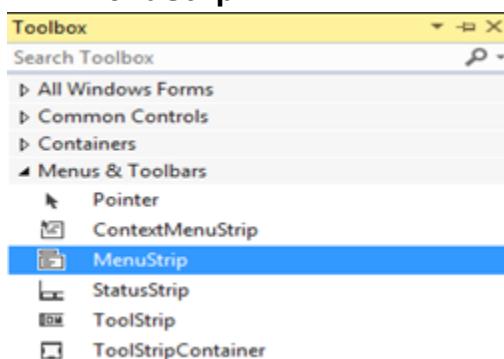
### Guided Task 4.1: File Menu

#### Step 1: Design form

Start new project. Use Windows Forms App (.NET Framework).

##### a. Add Menu and submenus to Form

- i. Use toolbox to add **MenuStrip** control.



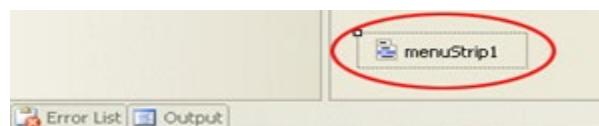
- ii. Double click control to add to form.

 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	3 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

At top of form:



Left bottom of screen:



- iii. To start building menu, click inside area that appears "Type Here".  
Type word File:



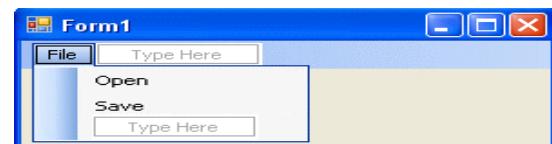
Press enter:



- iv. To create submenus under File menu, click inside **Type Here** box.

Enter word **Open**, and press enter.

Add "Save" submenu:



- v. Final submenu is "Exit". Add **separator** between "Save" and "Exit".

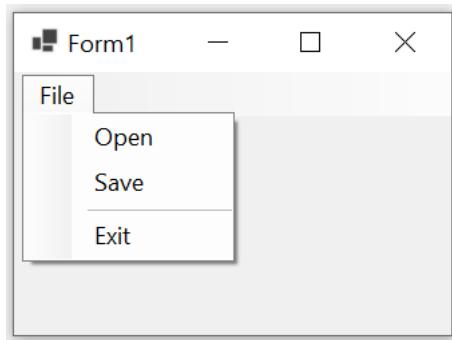
To add separator, click inside "Type Here" box.

 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	4 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

Type minus character "-" (between the "0" key and the "+/=" key on keyboard).

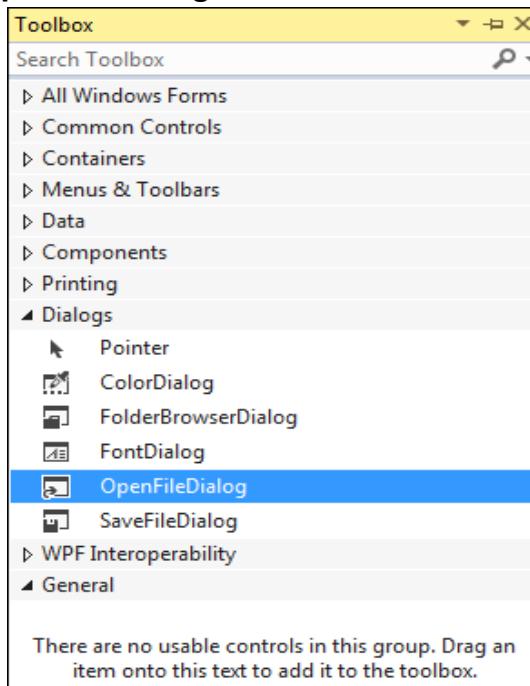
Add Exit (or Quit) submenu.

Click on form to finish task:

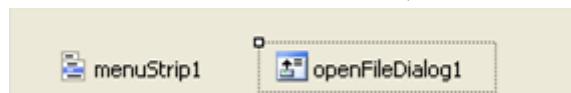


### b. Add built-in dialog boxes for Open Menu

Toolbox>Dialogs>**OpenFileDialog**



Control not added to form but to area at bottom, next to menu control:

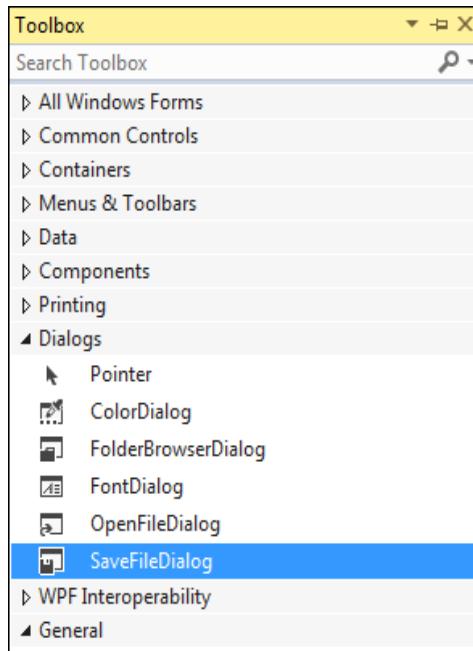


 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	5 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

Shaded area surrounding control means that it is selected. Scroll through Properties window to see properties of control.

### c. Add built-in dialog boxes for Save Menu

Toolbox>Dialogs>**SaveFileDialog**

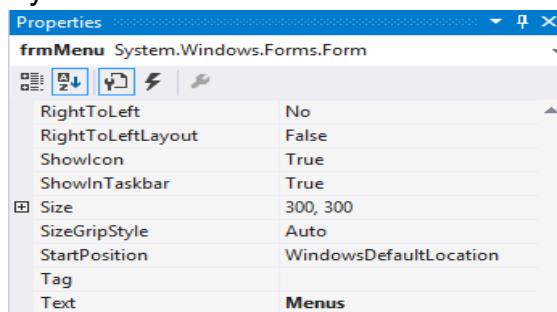


Added next to OpenFileDialog:

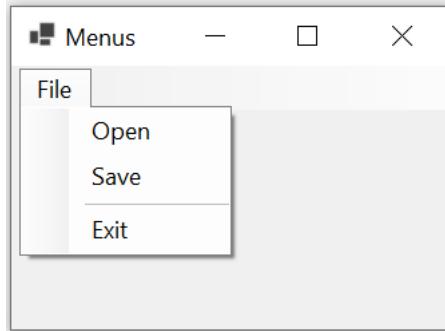


### Step 2: Set properties

#### a. Change Text property of form.



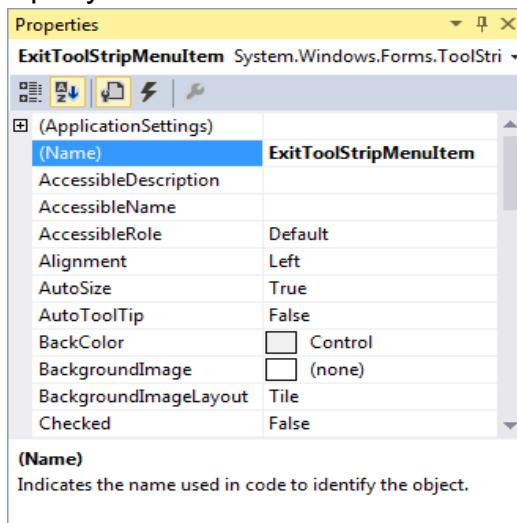
 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	6 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2



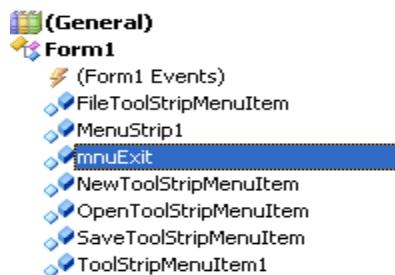
**b. Set Menu Items**

**Rename menu items:**

- Get back to form
- File menu>Exit (or Quit) item (Be careful not to click in middle - may open code window. Click somewhere left edge).
- Change Name property to **mnuExit**.



- Press F7 - code window up. Click drop down arrow of General box, should see new name appear:



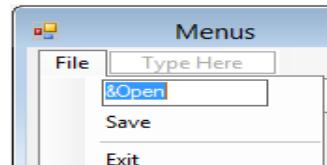
- Follow same steps to rename **Open** and **Save** menus.

**c. Add access key or shortcut key to menu items**

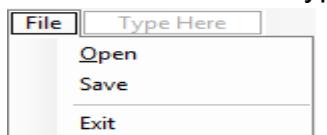
 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	7 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

### i. Access key

- Click on **Open** menu item once.
- Position cursor before "O" of **Open** and type ampersand (**&**). Press enter.



Notice that "O" of **Open** is now underlined. If you want the underline to appear, ampersand character should be typed before letter.

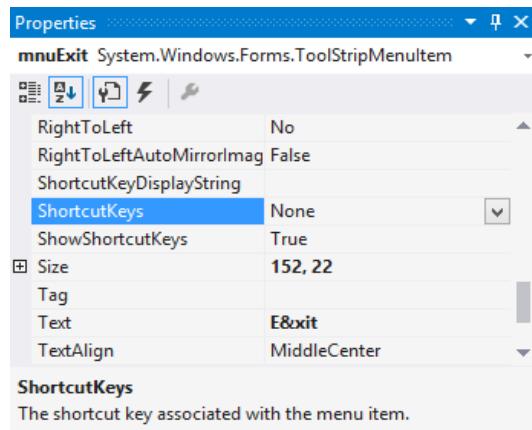


- Add access key "F" to **File** menu, "S" to **Save**, and "x" to **Exit**.
- Run program to see if access key works. Hold down **Alt** key on keyboard.

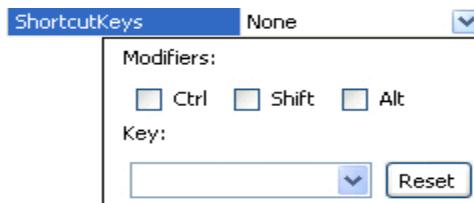
### ii. Shortcut key

Appears at end of menu item (e.g. Ctrl + x).

- Select **Exit** item on menu by clicking once.
- Choose **ShortcutKeys** at property window.

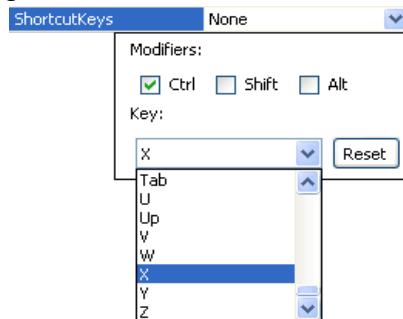


- Click down arrow:

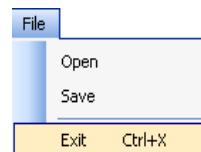


 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	8 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

Modifier - key pressed with shortcut. For example, the CTRL key then the "X" key on your keyboard. Place a check inside the Ctrl box and select the letter "X" from the Key dropdown list, as shown in the following diagram:



Click your menu to see the result:



Run your program and test out the shortcut key. Do not click the **Exit** menu. When you hold down the **Ctrl key** on your keyboard. Then press the **letter x**. This action should closed the program.

You can add these types of shortcuts to **Open** and **Save** menu item. Just remember to choose a different key stroke combination for each.

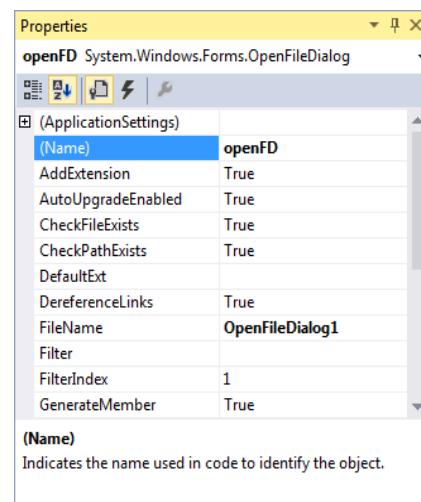
#### d. Setting for Rename Dialog boxes

##### i. Rename Open Dialog Box:

- Select the control of “OpenFileDialog1”.
- Click on the **Name** property and **change the name to openFD**. When you change the name in the properties box, the name of the control at the bottom will also changed.

##### iii. Rename SaveDialogBox:

- Select the control of “SaveFileDialog1”.
- Changed the Name property of your control to something more manageable (e.g **saveFD**).



 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	9 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

### Step 3: Write program code

#### a. Write a program code for Open Menu

- Access the code for your **File** → **Open** menu item. (To do this quickly, you can simply double click the Open item on your menu bar. Or press F7 (CTRL + ALT + O in version 2012) to access the Code View.)
- Double click the Open menu and add the following code:

```

Private Sub mnuOpen_Click(ByVal sender As Object, _
  ByVal e As System.EventArgs) _
Handles mnuOpen.Click

  openFD.ShowDialog()

End Sub

```

Press **F5** to run your program. Then click the **Open** item on your File menu. You should see an **Open** dialogue box displayed.

#### b. Make your Save menu functioning

- Access the code for your **File** → **Save** menu item.
- Double click the Save menu and add the following code:

```

Private Sub mnuSave_Click(ByVal sender As Object, _
  ByVal e As System.EventArgs) _
Handles mnuSave.Click

  saveFD.ShowDialog()

End Sub

```

#### c. Make your Exit menu functioning

- Access the code for your **File** → **Exit** menu item. Type the following code:

```

Private Sub mnuExit_Click(ByVal sender As Object, _
  ByVal e As System.EventArgs) _
Handles mnuExit.Click

  End

End Sub

```

### Step 4: Run the program and fix the error (if occurs)

Once you have typed the coding, **Run** your program (press F5 or click the Run icon on the Standard toolbar). Test all the menu item (access key and shortcut keys).

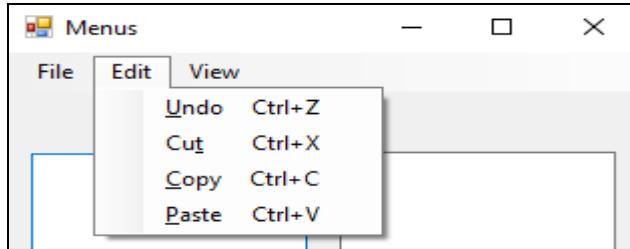
#### Guided Task 4.2: Edit Menus

 Universiti Tun Hussein Onn Malaysia <b>UTHM</b>	Centre for Diploma Studies	Page	10 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

## Step 1: Design a Form

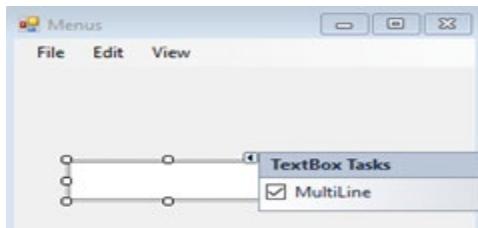
### i. Add Edit Menu at Main Menus:

You are going to continue your work from Guided Task 1. Add the following **Edit**\_menu item to the menu bar and add **submenus**: **Undo**, **Cut**, **Copy** and **Paste** together with the access keys and shortcut keys. Your menus should look like the following:

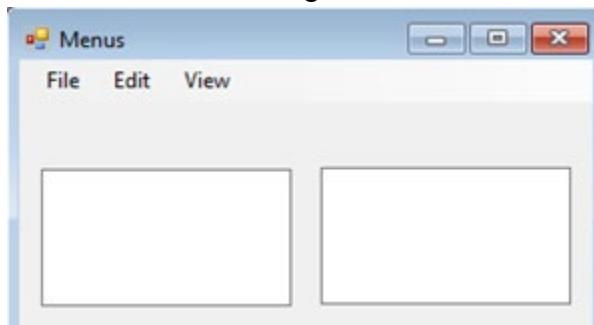


### ii. Add two textboxes to your form

Choose multiline as shown below:



Your form should now look like the following:



## Step 2: Set the properties for each object controls

### a. Rename the Menu Items

Just like you did with the Exit menu item in Guided Task 1, change the Name property for ALL submenu items for Edit. Do not leave them to defaults of "MenuItem1", "MenuItem2", etc. (e.g. Undo item could have the Name **mnuUndo**.)

### b. Set property for textboxes

 Universiti Tun Hussein Onn Malaysia UTHM	Centre for Diploma Studies	Page	11 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

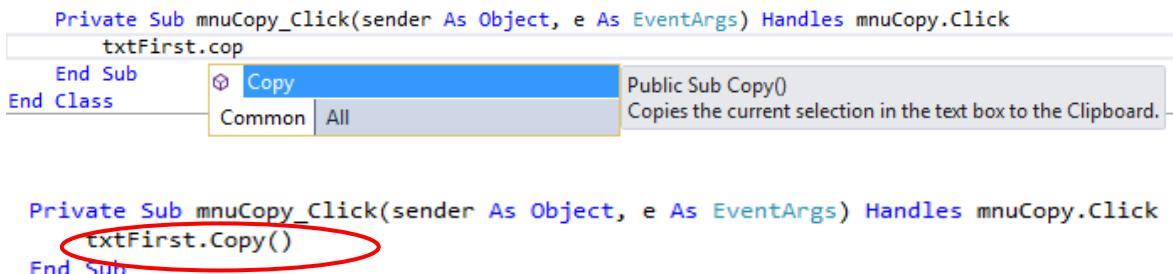
Set the name for the first textbox as txtFirst and second textbox as txtSecond.

Change the font size to 14 points.

### Step 3: Write a program code

#### a. The Copy Menu

- Add a line of code to your Copy menu item.
- Choose Edit → Copy. Double click the Copy submenu.
- Type the following code and choose Copy method:



```

Private Sub mnuCopy_Click(sender As Object, e As EventArgs) Handles mnuCopy.Click
    txtFirst.Copy()
End Sub

```

Public Sub Copy()  
Copies the current selection in the text box to the Clipboard.

```

Private Sub mnuCopy_Click(sender As Object, e As EventArgs) Handles mnuCopy.Click
    txtFirst.Copy()
End Sub

```

Notice the tool tip tells you what this method does - copies the current selection to the clipboard. The clipboard is a temporary storage area available to most Windows applications. When you invoke the Copy method of the textbox, any selected text is placed in this temporary storage area for you. You don't have to write any other code.

- To enhance user convenient features, add a **Message Box with Show Method** in the Copy menu event procedure as below:

```

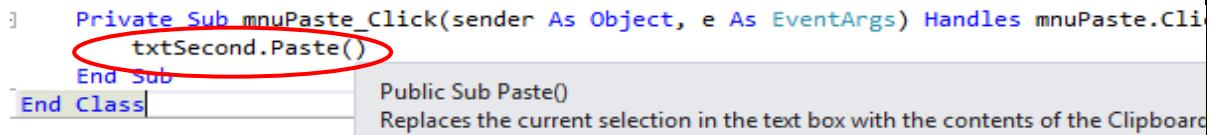
MessageBox.Show("This menu will a Copy Operation",
    "Copy",
    MessageBoxButtons.OK,
    MessageBoxIcon.Information)

```

Nothing will happen when you run your code. Let's paste it into the second textbox.

#### b. The Paste Menu

- Add a line of code to your Paste menu item. Your code window should look like the following:



```

Private Sub mnuPaste_Click(sender As Object, e As EventArgs) Handles mnuPaste.Click
    txtSecond.Paste()
End Sub

```

Public Sub Paste()  
Replaces the current selection in the text box with the contents of the Clipboard.

 Universiti Tun Hussein Onn Malaysia <b>UTHM</b>	Centre for Diploma Studies	Page	12 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

- Add a line code of Message Box with Show Method in the Paste menu event procedure as below:

```
MessageBox.Show("This menu will a Paste Operation",
    "Paste",
    MessageBoxButtons.OK,
    MessageBoxIcon.Information)
```

iii. The Cut Menu

- Add the following code to your Click Event procedure of Cut menu item:

```
txtFirst.Cut()
MessageBox.Show("This menu will a Cut Operation",
    "Cut",
    MessageBoxButtons.OK,
    MessageBoxIcon.Information)
```

iv. The Undo Menu

- Add the following code to your Click Event procedure of Undo menu item:

```
txtFirst.Undo()
MessageBox.Show("This menu will a Undo Operation",
    "Undo",
    MessageBoxButtons.OK,
    MessageBoxIcon.Information)
```

**Step 4: Run the program and fix the error (if occurs)**

a. Test Copy Menu and Paste Menu

- Type something in textbox one.
- Select all the text in textbox one, then click Edit → Copy from your menu.
- Click inside the second textbox. Then click Edit → Paste from your menu. The text should appear in textbox two.

b. Test Cut Menu

Select the text in textbox one. From your menu, click Edit → Cut. The text will disappear (it is on the clipboard). Click inside textbox two, and click Edit → Paste. The text should be pasted over.

c. Test Undo Menu

Then select the text in textbox one. Click Edit → Cut and the text disappears. Now click Edit → Undo. The text appears.

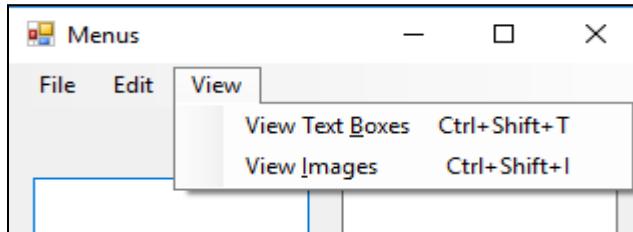
**Guided Task 4.3: View Menus**

**Step 1: Design a Form**

 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	13 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

a. **Add View Menu at Main Menu**

- Continue your work from previous Guided Task 2, add the following submenus for View Menu: View Text Boxes and View Images. Your menus should look like the following:



b. Add an image to your form

- To insert an image, locate the **PictureBox** control in the toolbox (under **Common Controls**). Either double click the control, or drag and drop the control onto your form.



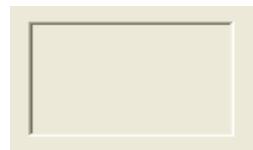
**Step 2: Set the properties for each object controls**

a. **Rename the Menu Items**

Change the Name property for ALL submenu items.

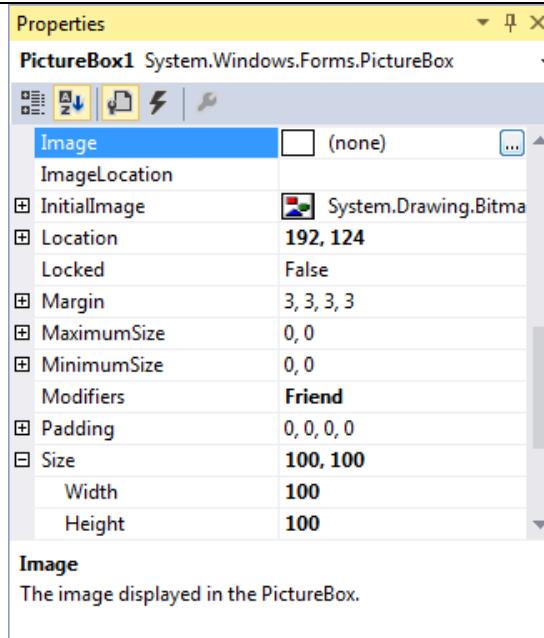
b. **Set property for an image**

- Change the **Height** and **Width** properties of the **PictureBox** to **100, 100**. (You can change both from the Size property.) You'll have a small square.
- To make it stand out more, locate the **BorderStyle** property. Change the value to **Fixed3D**. Your Picture Box will look like the following:



- To add a picture at design time, locate the **Image** property in the properties box.

 Universiti Tun Hussein Onn Malaysia	Centre for Diploma Studies	Page	14 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2



Then click the ellipsis button in Image ( ... ). A dialogue box appears. Locate an image. Select it, and then click Open in the dialog box. The image will appear in your Picture Box. You may also change the property of your **SizeMode** to **StretchImage**:



### Step 3: Write a program code

#### a. The View Textboxes menu item

- At your design time, choose Visible as False for both textboxes as to hide the textboxes.
- Access the code for your **View Textboxes** menu item. Type the following for the menu item:

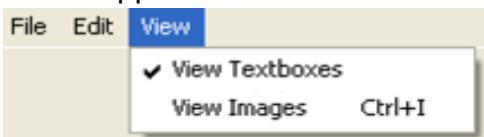
```
txtFirst.Visible = True
txtSecond.Visible = True
```

 Universiti Tun Hussein Onn Malaysia UTHM	Centre for Diploma Studies	Page	15 / 15
	Department of Information Technology	Session	2022/2023
	Lab Practical Title: Menu and Dialog Boxes	Semester	2

- Run your program. Click **View** → **View Textboxes**. The two textboxes you should appear.

**b. Set the value as Checked property of menu item using code (work at run time)**

- Each item on your menu has a Checked property. If **CheckOnClick** set to **True**, you will see a tick appear next to the menu item as shown below:



- You can use this Checked property as a toggle: If the submenu item is ticked, display the textbox; else hide the textbox.
- Add this If Statement:

```
If mnuViewTextboxes.Checked = True Then
    txtFirst.Visible = True
    txtSecond.Visible = True
Else
    txtFirst.Visible = False
    txtSecond.Visible = False
End If
```

**c. The View Images Menu Item**

Modify (a) and (b) to view an image.

**Step 4: Run the program and fix the error (if occurred)**

- Run your program and test out your new menu. Click **View** → **View Textboxes** and see if they toggle on and off.
- Then, click **View**→**View Images** and see if the image toggle on and off.