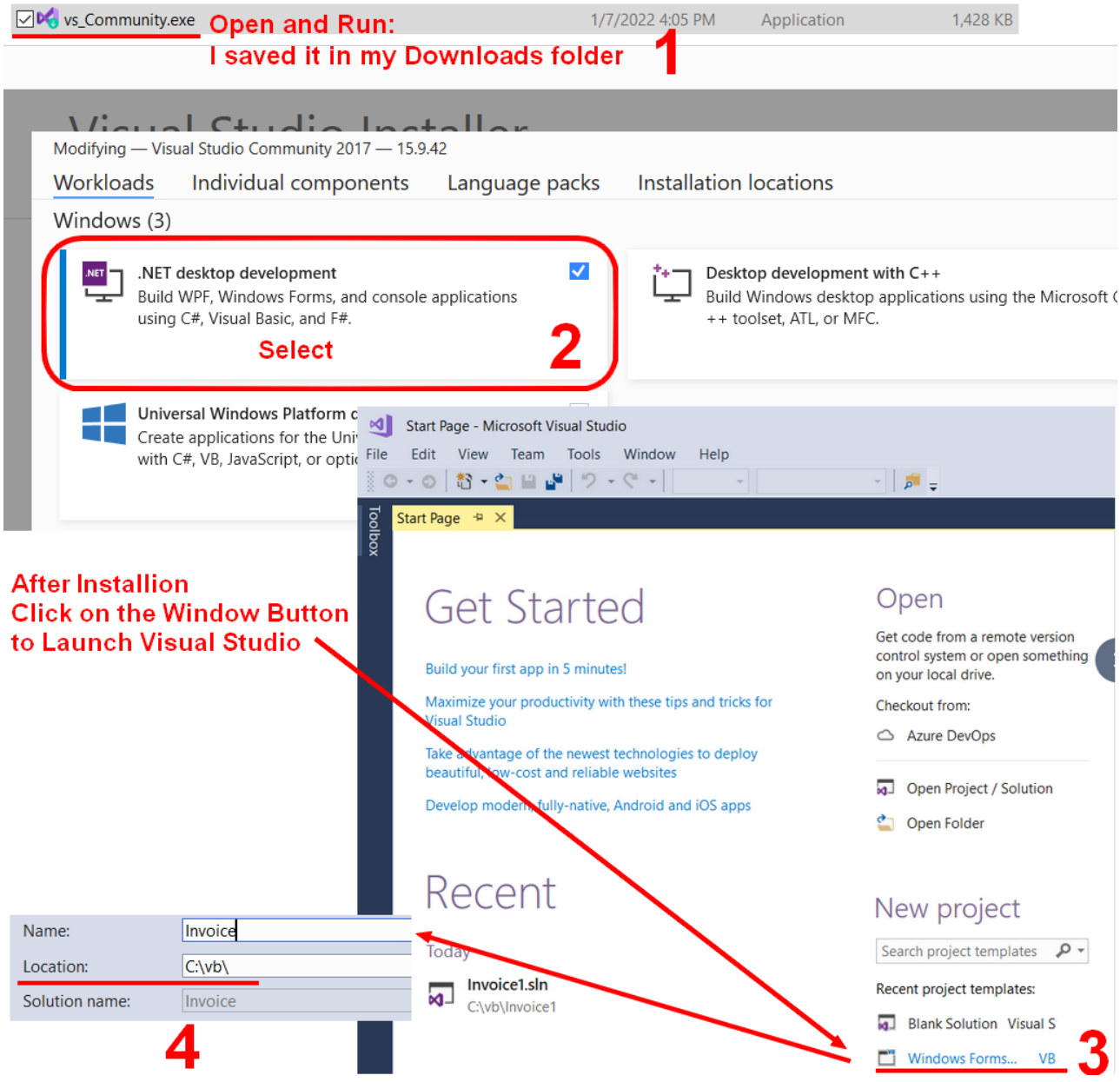
COP2170 Visual Basic ASSIGNMENT SHEET for Professor Floyd Jay Winters v01/08/2022

#1 (Intro) | #2 (Boxes) | #3 (Calcs) | #4 (Format) | #5 (If) | #6 (Loops) | #7 (PMT Func) | Mid | #8 (Anim)
#9 (Pass Arguments) | #10 (Add Forms) | #11 (Menus) | #12 (Arrays) | #13 (Files) | #14 (Docu) | Final

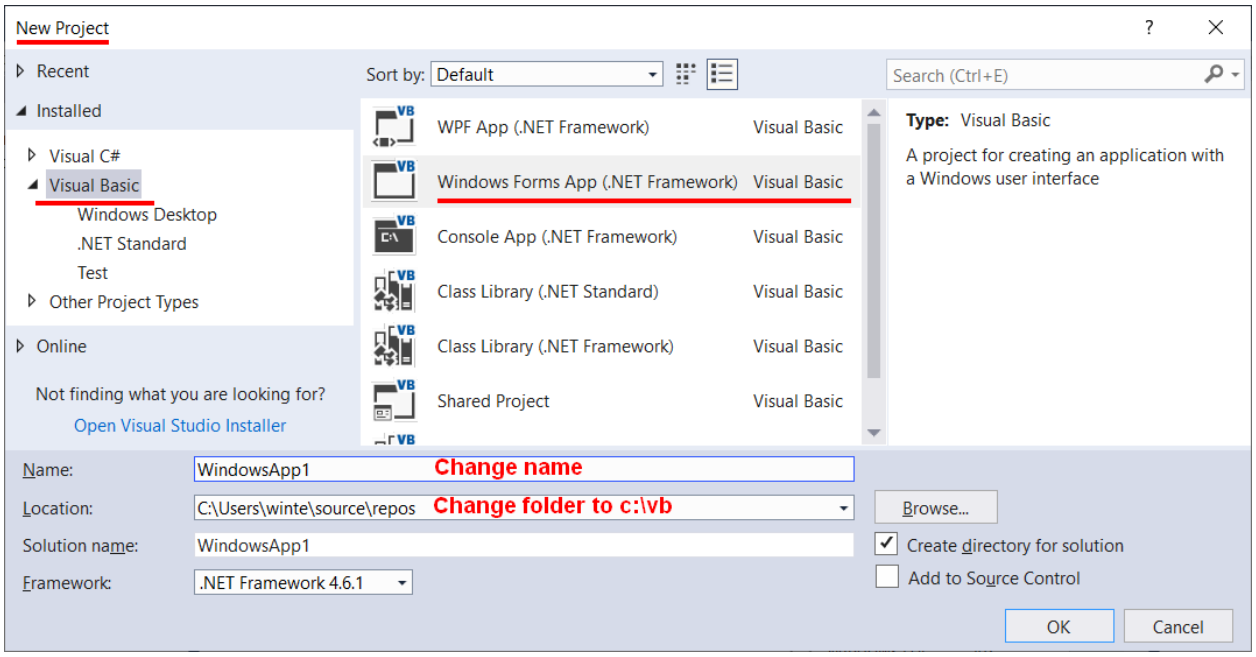
Please do Not print. I may add some helpful additions and hints and put this back online.
The key to Success is just showing up. If you miss a class, it makes this subject much harder!

ASSIGNMENT #1 – You first Visual Basic Form – Start your Invoice Program
Read Chapter 2 in your Visual Basic textbook
Starting Out With Visual Basic 8th Edition By Gaddis & Irvine, **ISBN-13: 978-0-13-520465-8**
This book is based on **Visual Studio 2017**: https://visualstudio.microsoft.com/vs/older-downloads/
The download file was named: **vs_Community.exe.** I saved it to my Downloads folder.
I strongly suggest you make a folder in C:/ and on your USB drive named **vb**. (C:/vb) See step 4 below.

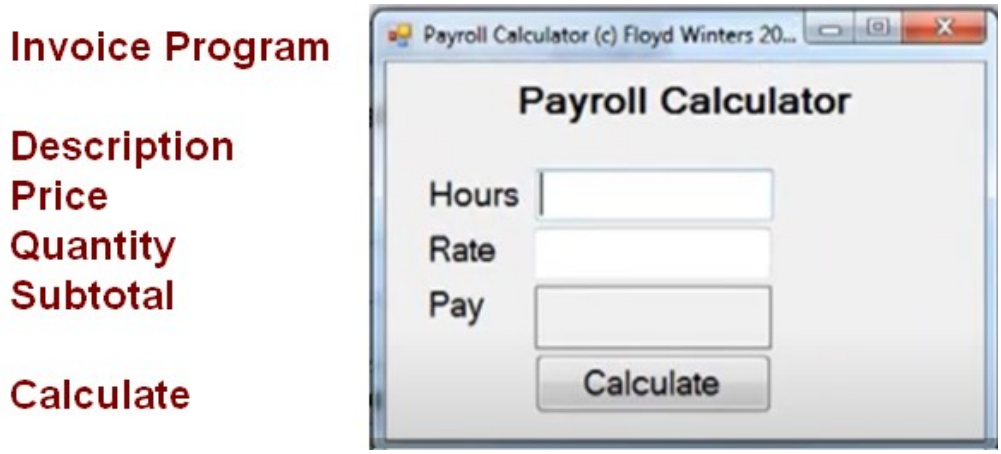


To start a new project also see Page 54 in your text book.

Or once everything is installed, File > New Project…



See the YouTube link below to build a simple Payroll Calculator
https://www.youtube.com/watch?v=-LTumY6SwnM&t
However, your assignment is to build a similar **Invoice Program** form with the Labels shown on the left.



10pts Set the Form **Title** and your Name in TitleBar at the very top [p45]
10pts Add the main **Labels** to the form [p47] or from video
10pts Under the **Label Name** property use good object names **lbl**Description, lblPrice, lblQuantity..,
10pts Add the main **Textboxes** to the form (Make Subtotal is a Label – so not one can enter there)
10pts Under the Label Name property use **good object names txt**Description, txtPrice, txtQuantity..,
10pts Use at least two noticeably different Label **Fonts** and label **Colors** [p70]
10pts Add a **Button** for the calculation routine, with a good name starting with **btn**. [p47]
10pts Neatly **Left-Align** the main labels and all the textboxes and set them to consistent sizes. [p72]
10pts Make sure the **calculation** works correctly (see video)
10pts Add 3 **Comments** at top of code view to display Program Name, Author Name, Creation Date [p98]
Due: Beginning of class, 2nd week. This will be graded in class on your USB drive, which is required.

-5 points for each day late or -25 points per week (There is extra credit to make up for late work)
DO NOT SAVE after you start your project. **VB automatically Saves whenever you click Run**. You can NOT SAVE projects created on your hard drive to your USB thumb drive. But you can COPY the entire folder from your hard drive to the USB thumb drive and vice versa. Make backups: Ctrl C | Ctrl V

NOTE – Each week in class I work on the next week's assignment. Each student is expected to pay attention to what we are currently doing in class. Students are strongly encouraged to do the currently in-class project that I am working on at their own computers. However, some students use our class time to do the prior week's assignment. That is the recipe for failure because you will only fall much further behind because you will miss out on the code and solution for your next assignment.
DO NOT WORK ON THE PRIOR WEEK'S ASSIGNMENT IN CLASS, unless I set aside time for that.

ASSIGNMENT #2 – Improving your Invoice Program Form Continue Chapter 2 in your textbook
Continue with your project and add the following to Assignment #1. Save it with the same name.
10pts **Backup** your project on your USB drive: Ctrl C, then Ctrl V – But do **Not** work with the backup.
10pts Add a different **Border Style** to the Subtotal textbox. [p71]
10pts Set **Autosize** to false for the Subtotal textbox [p71]
10pts Add a **PictureBox** with a good object name and with a Logo [p82]
10pts Add a **btnHide** in the lower left corner to hide the logo Picture box: **Visible False** [p90]
10pts Add an **Exit Button** in the lower right corner (Me.Close or **End**) [p95]
10pts Add a **MessageBox** that displays "Thank You" when the Calculate Button is pressed [p104]
10pts Add a **StatusStrip** at the bottom of the form that displays the last Calculation total [p105]
10pts Add a **Button** to **Clear** the form textboxes (put it in middle of the bottom of the form) [p75]
txtZ.Clear or txtZ.Text="" or lblZ.Text = String.Empty
10pts Add a 3D **FormBorderStyle** [p108]
Give your form a good logical name, such as frmMainEntry in VB and Invoice.vb on the drive [p430]
Due: Beginning of class, 3rd week. This will be graded in class on your USB drive.

GOOD DEBUGGING PRACTICES:
a. **Make the problem as simple as possible**. For instance, create a short project named Junk.sln with perhaps just 2 text boxes and a button to test your code before adding it back to your real project.
b. Insert **Breakpoints** (click in gray side bar to get red circle) then run program, tapping [F8] or [F11] to step through (We'll cover this in class, but you can Google it :-)
c. Use VB Help or do a Web search for help or sample code or ask for solutions.

ASSIGNMENT #3 – Variables and Calculations as you continue your Invoice Form, Chapter 3
10pts At the top of your form, add a label and a Textbox for **First Name**.
…….At the bottom of the form, add a Label to display "Welcome" txtFirstName (**Concatenation**) [p128]
10pts At the top of your form, add a label and a Textbox for **Date**
…….At the bottom of the form, in the lblWelcome label display the date in the second line (**Crlf**) [p128]
10pts Define (Dim) a **Variable** named **strCompanyName** and assign it a value [p132]
…….At the bottom of the form, in the lblWelcome label display the Company Name in the third line
10pts At the bottom of the form, add a button to display all three Welcome lines

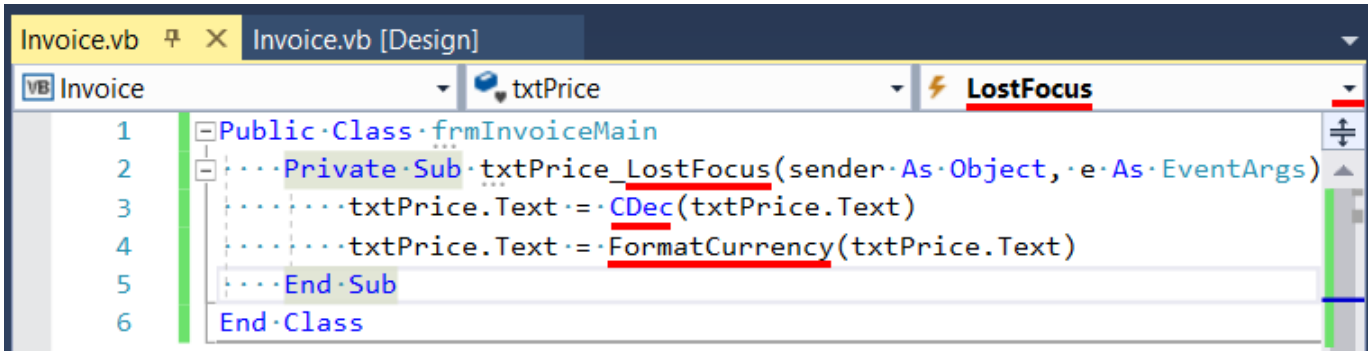
10pts **Convert** txtPrice to decPrice. (CDec) Convert txtQuantity to intQuantity (CInt) [p134]
10pts Define a **Variable** named **decTaxRate** and assign it a value of .07 [p151]
10pts Calculate **Subtotal**: multiply decPrice times intQuantity, place the results in the **lblCalcSubTotal**
10pts Add a label named **lblTax.** Calculate **Tax** and display it in a label named **lblCalcTax**
10pts Add a label named **lblTotal** and add Subtotal to Tax and place the results in a **lblCalcTotal** label
Neatly line up all the labels above, so it looks like the lines below:

Subtotal: 100.00
Tax: 7.00
Total: $107.00
10pts Turn on **Option Strict** to make sure the data conversions are correct [p145]

Please use the following variable, textboxes, and label names below:
frmMainEntry
strCompanyName
txtDescription
txtPrice
txtQuantity
decPrice
intQuantity
decSubTotal
lblCalcSubTotal
decTaxRate
decTax
lblCalcTax
decTotal
lblCalcTotal

If you do this, I can make a template that I can use to test your background code at home without having to completely rebuild my form for each student. And that way I can provide more help to you.
Due: Beginning of class, 4th week.

ASSIGNMENT #4 – Formatting your Invoice Form, Chapter 3
10pts Make sure the **Tab Order** for the ENTIRE form works (top-down, left-right) [p184-185]
10pts After pressing Clear, **Set Focus** to the first text box [p186-187]
Set and format numeric values on _Lost_Focus or _Leave or _Validating [p838] or _ValueChanged [p839]



10pts Display the Subtotal and **Tax with two decimal places**, no $ on Lost Focus or Leave or Validating.
http://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/FormatSamples.htm

10pts Display the **Total with two decimal places, and a $** on Lost Focus or Leave or Validating. [p161]
There is a Property to **Right Justify numeric values** so you can decimal-align your numbers. (2pts)

10pts Add a **Try Catch** to your Calculation button [p176]

10pts Add an **error MessageBox** to your Try/Catch routine [p181]

10pts Set the Exit button to work with an Alt +X **Hotkey** [p187]

10pts Add a **GroupBox** with **CheckBoxes** listing at least 3 categories of items that you may buy [p190]

10pts Add a formatted **DateTimePicker** from the toolbar with a **Short Date Format** [p163]
See DateTimePicker1 section below for formatting:
http://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/FormatSamples.htm

10pts On **Form Load** set **Today**'s date as the default date for a lblSysDate in **Long Date Format** [p192]
So, there will be both a default Invoice date from the DateTimePicker and a System date (lblSysDate)

Due: Beginning of class, 5th week.

ASSIGNMENT #5 Decisions/IF Continue the Invoice Program, Chapter 4

10pts Use an **If** statement for txtPrice lost focus to see if Price is greater than 1000 [p235-237]

10pts **Test for Nulls** ("") for Price and Quantity

```
  If txtPrice.Text = "" Then Exit Sub
```

10pts If Price is greater than 1000 show MessageBox "Is Price too high?" If yes, set Focus and reenter

```
Private Sub txtPrice_LostFocus(ByVal sender As Object, ByVal e As ...
  If txtPrice.Text = "" Then Exit Sub
  Dim Response As DialogResult
  If CDec(txtPrice.Text) > 1000 Then ' Out of Range test
    Beep()
    Response = MessageBox.Show("Is Price too High?", "Out of Range",
MessageBoxButtons.YesNo)
    If Response = DialogResult.Yes Then
       txtPrice.Focus()
       Exit Sub ' Exit and do not execute additional code till data OK
    End If
  End If
  ' If you are done error checking, you can Call your Calculation subroutine here
End Sub
```

10pts If Quantity is greater than 100 show MessageBox "Is Quantity too high?" …

(10pts) Use an **Or** operator so you will Not do the Calculation if either Price Or Quantity is blank [p255]
See first If statement above for a hint. See Below.

10pts Create a Private Sub for your Calculations, by typing in code view Private Sub Calcs

```
Private Sub Calcs()
    If txtPrice.Text = "" Or txtQty.Text = "" Then Exit Sub
```

```
    lblCalcTotal.Text = FormatCurrency(decPrice * intQuantity)
    ' OR
    ' lblCalcTotal.Text = FormatCurrency(CStr(CDec(txtPrice.Text) * CInt(txtQuantity.Text)))
End Sub
```

10pts Use the **Call** statement to replace and **delete the Calculate button** [p382]

Call is an optional command used to "call" or jump to another Sub Procedure. Although it is optional, it is recommended you use the command Call for code clarity.

```
Dim Price As Decimal
Dim Qty As Integer

Private Sub txtPrice_LostFocus(ByVal sender As Object, ByVal e As System.EventArgs)
Handles ...
    If IsNumeric(txtPrice.Text) Then
        Price = CDec(txtPrice.Text)
        Call Calcs()
' Call eliminates the need for a Calculation button for immediate results on lost focus
    Else
        MessageBox.Show("Enter Only Numbers for Price", "Data Entry Error")
        txtPrice.Focus()
    End If ' End IsNumeric
End Sub

' Note 1: Similar procedure is needed for Qty_LostFocus
' Note 2: There should also be an Out-Of-Range test for all numeric entry on _LostFocus
```

10pts Convert txtDescription **To Upper** on Lost Focus or Leave [p261]
10pts Make sure both Price and Quantity are **Numeric** on Lost Focus, Leave or Change [p264]
10pts Add a **GroupBox** with two **Radio buttons** for Taxable or Non-Taxable [p281]
10pts If Non-Taxable then add an **If** statement to set the tax rate at 0. If Taxable reset the tax rate to .07
Due: Beginning of class, 6th week.

ASSIGNMENT #6 Lists and Loops Continue the Invoice Program**,** Chapter 5
10pts Create a **List Box** with a scroll bar to show at least 4 invoice items [p312]
10pts Add a Purchases **Counter** (+=1) for each time the Calculate button is pressed. [p322, lines 2 and 6]
Put the Purchases Counter in the Calc procedure. Display the counter in a Count Label under Total
10pts Add a Total Sales **Accumulator** (+=SubTotal) to add all of the Purchase Prices. [p326]
Display the Total Sales **Accumulator** in a Label under Total, next to the Purchases Counter
Ex: Total Number of Purchases: 3. Total Sales: $750.00 (Four labels in all)
10pts Add a **Check Box** to allow you to check multiple items that may be purchased [p342]
10pts Add a **ToolTip** Property to the Exit button "Do you really want to exit?" [p354]
CREATE A SEPARATE PROJECT NAMED LOOPS
10pts On Form Load add an **Input Box** to allow the user to enter an integer for the LoopLimit [p310]
10pts In the top left corner create a **Do While** loop to count to 10 [p320]
10pts In the top right corner create a **Do Until** loop to count to 10 [p331]
10pts In the bottom left corner create a **For Next** loop to count to LoopLimit by **Step 2** [p334, p338]
10pts In the bottom right corner build the For Next loop on p336
Due: Beginning of class, 7th week.

ASSIGNMENT #7 Functions Build a separate project for a Loan Calculator – see top of page 355
10pts Add **Textboxes** to enter txtLoanAmount, txtInterestRate, and txtYears.
10pts Use the **Pmt** function to do a monthly payment calculation [p356] Display it in lblCalcPayment.
Add a **Listbox** to display **Month Interest Principal Balance** calculations
10pts Add a **Header** BEFORE a **For loop** (probably even before the ListBox so it is always visible) to show:
Month Interest Principal Balance
10pts In the loop, use a **Counter** to count and display the month number in the first column (see below).
10pts Calculate the monthly **Interest** as you loop and place it in the second column. (see book)
10pts Calculate the monthly **Principal** as you loop and place it in the third listbox column
10pts Calculate the running **Balance** and place it in the last column (see book and see below).
10pts **Neatly** Display only the numbers under the Header as you run the loop. Example:

Month	**Interest**	**Principal**	**Balance**
1	185.42	435.52	29564.48
2	182.19	438.75	29125.73

If necessary, google how to make the numbers line up under the header in neat columns.
(Hint "Month" & vbTab & "Interest" &…)
*** Do **NOT** display the results the very unprofessional way the book displays the detail on page 357.
Compare your Loan Calculator results to:
https://faculty.scf.edu/winters/0ClassFolders/1570Office/SamplesExcel/LoanCalculatorToCompare.xls
10pts Use an **Accumulator** to display **Total Interest Paid** after the loop**,** at the bottom of the listbox.
10pts Use an **Accumulator** to display **Total Principal Paid** after the loop**,** at the bottom of the listbox.
Due: Beginning of class, 8th week.

In class **Midterm** 9th week: 50 Questions, Multiple Choice.
After the exam I will work one on one with any students who need help on their projects.
See Midterm Review Guide:
http://faculty.scf.edu/winters/0ClassFolders/2170VB/SamplesExams/VB-MidtermStudyGuide.htm

ASSIGNMENT #8 Extra Credit Animation up to 30 points. Chapter 6
Feel free to do an Internet search for sample code.
10pts Use a **Timer** for a countdown (**decrement**) and for movement after countdown

```
Private Sub btnCountDown_Click(ByVal sender As System.Object, ByVal e As...
     ' This Button will begin Rocket count down and launch
    Timer1.Enabled = True
     ' Once Timer1 is enabled, the commands in Private Sub Timer1_Tick
     will execute on each tick
End Sub
```

10pts Use a **Loop** to move an object either left to right, right to left or on a diagonal.
Do Not use the up sample below, but you can use it as a pattern.

```
Private Sub Timer1_Tick(ByVal sender As System.Object, ByVal e As ...
' If you use a background image and the animation causes a white outline
' as it moves place the animation on a separate form (or use a Panel tool)
' and then set the Form's Double Buffer property to TRUE.
    Static C As Integer = 5
' Static means remember current value as other parts of program are run
```

```
        lblCount.Text = C
        C -= 1 ' Decrement by 1 each timer click
' Note: a loop is seldom used in a timer, because the timer automatically ticks
        If C = 0 Then
            lblCount.Text = "Ignition" : lblCount.ForeColor = Color.Red
        End If
        If C <= -1 Then
            lblCount.Text = "Blastoff" : lblCount.ForeColor = Color.Blue
            Timer1.Interval = 100
         ' 100 = 100 ms. - reset Interval to move rocket faster
            picRocket.Top -= 1
         ' Move picture up by decrementing the top position
        End If
End Sub
```

10pts Make it really nice and cool!
Sample submission:
https://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/Annimation-Submission-Example.jpg
Due: Beginning of class, 10th week.

ASSIGNMENT #9 Procedures and Functions Continue Chapter 6
10pts Create a new project and add a **Tab Control** from the toolbox to the main form. [p831]
Add three tabs with valid names and Tab Titles: Pass Argument | Pass to List | Function
5pts On the top of the first tab, add a Label to **clearly** describe what **Passing an Argument** means
5pts Add a second Label to give a **specific** example for your description of Passing an Argument.
20pts Under the labels, on the first tab, build something like the Lights Project starting on page 383 or feel free to use the Internet to find sample custom procedure that **passes Arguments**.
For a simple sample see:
https://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/Procedure_Arguments.htm
https://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/Procedure_Arguments.jpg
10pts Do Not use the samples above. Create **your own procedure** or find and modify one on the web.
Do Not use the light bulb images shown in the book. Use **your own images and design**
10pts Put all the code for the first tab in a **Region** called **PassArguments**, and the code for the second tab in a **Region** called **PassList**, and all the code for the third tab in a **Region** called **MyFunction**.
10pts On the second tab, (Pass to List), create a small app like the one shown on page 389
5pts On the top of the third tab, add a label to describe what a **Function** is
5pts Add a second label to give at least two **specific** examples of functions
10pts Under the labels, create a custom function similar to the one on page 397 or feel free to use the Internet to find sample custom VB functions to modify. For a simple sample see:
https://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/Function.htm - but use another sample
Due: Beginning of class, 11th week.

ASSIGNMENT #10 Multiple Forms Continue the Invoice Program**,** Chapter 7
10pts Add an attractive **Splash Screen** [p431] (Project > Add Windows Form > scroll to Splash Screen) consistent with your overall project design; make the Splash screen your Startup Form [p434]

10pts **Link** the Splash Screen to the Login form which will link to frmMainEntry (**.Show**) **non-modal** [440]
10pts Add an automatically centered (there is a property) and attractive **Login Form** to your Project (Project > Add Windows Form > scroll to Login Form) consistent with your overall project design which is the Startup object for your project.
10pts **Link** the Login Form to frmMainEntry with a properly formatted **Password** (*** there is a property) from the OK button. When the password is correctly entered open the frmMainEntry form and then close the Login form, **frmLogin.Close** [p436]
10pts Use a **counter** to give the user exactly 3 password attempts to either open frmMainEntry or Exit.
10pts Add a **modal frmAbout.ShowDialog** [p440] (Project > Add Windows Form > scroll to Aboutbox) linked from frmMainEntry; change the AboutBox content through its properties and Assembly information [See **Assembly** button on page 434]
10pts Add a modal form frmCalendar to your project. Add a button to link to it from frmMainEntry
10pts Neatly drag a **Calendar** Control from the Toolbox to the new form frmCalendar
10pts Add a separate **Module** (Project > Add Module) [p451] A module is all code, no objects. Name it something like modVariablesAndFunctions. You should put your Public and Constant variables in the Module, such as CompanyName, Company Address, TaxRate. You can put your function from your previous assignment in the module. Do not use the word Private! Variables defines in a module should be **Public**.
10pts Demonstrate that the code in the module is used in the frmMainEntry
Due: Beginning of class, 12th week.

ASSIGNMENT #11 Menus Continue the Invoice Program**,** continue Chapter 7 [p461]
Add a working Menu: File (Exit), Format (Color, Font), Help (Notes, About) to frmMainEntry
10pts File > **Exit** (mnuFile > mnuFileExit) – See Toolbox > Menus & Toolbars > add a MenuStrip to form
20pts Add Format menu item > **Color** (to access the Label Collection Color Dialog Box mnuFormatColor)

```
ColorDialog: Changing color for Labels and TextBoxes:

1. Add a ColorDialog to the Component Tray (drag from toolbox).
2. You may also choose to add a MenuStrip to the Component Tray.
Code for SubMenu item "Edit Color" (mnuEditColor):

Private Sub mnuEditColor ToolStripMenuItem_Click(ByVal sender As...
  ColorDialog1.ShowDialog()
  Label1.ForeColor = ColorDialog1.Color
  Label2.ForeColor = ColorDialog1.Color
  ' Note: this is usually done with a Collection instead of doing one at a time
End Sub
The same basic code shown above works for the FontDialog as well.
```

20pts Format menu item > **Font** (to access a Font Dialog box - mnuFormat > mnuFormatFont)

```
Combining ColorDialog and FontDialog:
To combine the ColorDialog (showing 16 colors as a dropdown) with the FontDialog Box,
use this code: FontDialog1.ShowColor = True
```

Add mnuFormatReset

```
Private Sub btnResetFont_Click(ByVal sender As System.Object, ByVal ...
    Dim myFont As New Font("Georgia", 14, FontStyle.Bold)
    Label1.Font = myFont
    ' or ctrlFormLabel.Font = myFont (for Collections)
```

```
    Label1.ForeColor = Color.Indigo
End Sub
```

10pts Help > View **Help** (or View Hints) [**Process.Start("NotePad", "../Hints.txt")**] Make Help work with [F1] key. Use real help hints such as where are the data files stored, backing up, data validity ranges... (There is a property for mnuHelpViewHelp to set F1. It was under Misc)
(OR: There is a Shortcut Property added when you add a MenuStrip) Help is always last item on the right
10pts Help > **About** box to display Title, Description, Author, Creation Date, Version
10pts Add a **Context Menu** (it provides a Right-click menu) (Toolbox > Menus & Toolbars > ContextMenuStrip) for changing the label collection Color and Font using a Color/Font Dialog Boxes
Note: Do not reinvent the wheel. Use mnuFormatColor.PerformClick() in mnuCtxColor menu sub to add the routine already created in mnuEditColor.
10pts Add a working **LinkLabel** (in Toolbox) to a relevant link [**Process.Start("http://website.com**
10pts Put all your mnuXxx procedures in **#Region** "Menu" in left-to-right/top-bottom order
Due: Beginning of class, 13th week.

ASSIGNMENT #12 Arrays Continue the Invoice Program**,** Chapter 8 [p499]
10pts Use **Dims** to define your Arrays
20pts Enter data for at least three items on your main form. Store the data for at least the Description, Price, and Quantity fields into at least three 1 dimensional **Parallel Arrays** (10 points each) perhaps called arrDescription, arrPrice, arrQty.
10pts Calculate the **SubTotal** (arrPrice * arrQty) (SubTotal does not have to be part of an array)
10pts Calculate the **GrandTotal** (GrandTotal does not have to be part of an array)
20 On your main form, use a **Loop** to display the three 1 dimensional Arrays and all the totals (ex: arrDescription, arrPartCost, arrPartQty) and calculate GrandTotal (an accumulator)
10pts Use a button to display all three arrays and the subtotal column in a **Listbox**
10 Display an aligned **Header** (use vbTab), the Detail (all individual items), and the Grand total.
10 Use an **Accumulator** to display the Grand Total.
The Listbox will look like this:

Description	Cost	Qty	Total
Apples	10.00	10	100.00
Bananas	20.00	20	400.00
CDs	30.00	30	900.00
DVDs	40.40	10	404.00
		Grand Total	$1804.00

Due: Beginning of class, 14th week.

ASSIGNMENT #13 Files Continue the Invoice Program**,** Chapter 9 [p573] 50 points Extra Credit
Click below to see a simple Password File:
http://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/DataFile-OneLineOfCode.htm
Group Project in Class
25pts Write the data from your Invoice frmMainEntry to your USB drive
25pts Retrieve and display the data from your drive to a separate form (perhaps in a ListBox)

See textbook or see:
http://faculty.scf.edu/winters/0ClassFolders/2170VB/Notes-VB/StreamWriter-Reader.htm
Due: Beginning of class, 15th week.

ASSIGNMENT #14 Create a Documentation Packet for the Invoice Program 50 points Extra Credit
Create a User's Manual in Word - this is front part of documentation package:
10pts **Table of Contents** page and an Introduction page and **page numbers** (Google it is you must)
10pts Discuss and show the running **Splash Screen** and **Login form**
Use [Alt] + [Print Screen] or the Snipping Tool (Start > Programs > Accessories > Snipping Tool) to capture your project windows, such as Login, Main Entry Form, About...
10pts Show and discuss the running **Main Entry Form**
5pts Discuss descriptions, defaults, data entry ranges, basic usage, data file description & path
5pts Show and discuss **Menu** options
No VB code is to be placed in the front section; the front part is only for the users.
10pts Create a Programmers section with the VB code in last half of documentation, as a separate section
In Microsoft Word, choose Save As to save the Documentation Package as a PDF file to be placed in the Documentation Package Dropbox in Canvas.
For Samples see: http://faculty.scf.edu/winters/0ClassFolders/2170VB/SamplesDocumentation/
Due: By Sunday of the last week of classes, before Finals Week.

16th Week
Hands-on Review for Final Exam in Class

Visual Basic Final Practice Professor Floyd Jay Winters Name _____

Code a form that is an: **Grade Calculator** Grade _____
Input: *Name, Major, Birthdate, MidTerm* (textboxes), *ExtraCredit* (chkbox), *Final* (label)
Formula: *Average* = *Midterm* plus *Final* divided *by 2* (remember Aunt Sally!)
Add a ListBox that lists in the following order: ART, BIO, CET, HIS
Put 2 option buttons in a GroupBox/Frame for *Male* or Female.
A. Use Acceptable and Standard Variable and TextBox names.
B. Make sure everything runs correctly! No Bugs! -5 to -10 Points for any error.
C. **Check off** what you complete **on the line to the right** of the numbered task.
You may write on this paper, but turn it in after you are done with the exam.

KEEP IT SIMPLE - Do not add anything extra and lose valuable time!

Instructor Checkbox		Student Check
_____	1 Insert the **MonthCalendar Control** on the Welcome/Logon Form (maybe DT-Picker)	_____
_____	2 A **Login Form** that links to the Main Form through an OK Button and cancels on ESC	_____
_____	3 Automatically **Maximize** the main entry form when it opens. (maybe Center Form)	_____
_____	4 Add **formatted** System (long) **Date** as a label on the top of main entry form (short date)	_____

_____	5 Add a LinkLabel to automatically go to www.scf.edu (or any link)	_____
_____	6 Display only the **Left** first 4 characters of the contents of the first alphanumeric TextBox.	_____
_____	7 Automatically **Capitalize** all the contents of the first alphanumeric TextBox	_____
_____	8 **Numeric** check to make sure only numbers can be entered in the 1st numeric TextBox	_____
_____	9 **Out of Range MsgBox** with Yes/No buttons on the 1st numeric TextBox (range: <= 100)	_____
_____	10 A **NumericUpDown** control that makes the second numeric TextBox increase/decrease	_____
_____	11 **Calculation** (such as *Average*) that works -10 points for a bug here!	_____
_____	12 Use **Debug** to print out "*Midterm*= " and *txtMidterm* and "*Final* = " and *txtFinal*	_____
_____	13 An *Extra-credit* **Checkbox** that adds 2 points to the Average if checked; no points if not	_____
_____	14 **Format** Command (Format Calculation to 1, 2, or 3 Decimal Places)	_____
_____	15 All **Alpha** TextBoxes **Left aligned,** ALL **Numeric** TextBoxes **Right aligned**	_____
_____	16 A **Groupbox surrounding 2 Option (**radio**) Buttons** for *Male* or *Female* (or ChkBox)	_____
_____	17 **ComboBox** (3pts) for *Major* that **defaults** (2pts) to "**CET"** even on **Clear** (or ListBox)	_____
_____	18 **About** Menu Item (Author, Creation Date) works with **Alt key** (1 pt) (ContextMenu)	_____
_____	19 A **Color Dialog Box** to set the **Font** of the 1st label on the form (or ForeColor)	_____
_____	20 A working **Process** linked to a Button to use Windows "Calculator" or "Notepad"	_____
_____	21 Add a **ToolTip** to a **working Clear** command **button** (maybe any object)	_____
_____	22 **SetFocus** to the first textbox when the Clear button is clicked	_____
_____	23 A well labeled **Counter** that increments when Clear button is clicked (or Accumulator)	_____
_____	24 Put **graphic** ...SamplesGifs/CD.gif in upper right-corner of main form (or Form Icon)	_____
_____	25 The graphic becomes **Visible** when the checkbox is checked**; Invisible** when unchecked	_____

The actual final may have one or two additional questions such as a Loop or Timer example.

Final Exam Week – Hands-on Final.

[JavaScript 3-month Calendar]