# Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pawsid:\_\_\_\_\_\_\_\_\_\_\_\_

## Download the PracticeComputerExamSpring2017 folder found at ftp://stf.bus.lsu.edu/classfolder to your desktop. (port 990)

## Write your name and pawsid at the top of this page.

## You may write on these instructions as you work. (Some students like to highlight or check off what they complete as they work through the exam.)

## Follow naming conventions and standards that we have covered in class.

## No email or other programs or textbooks may be opened during the exam. (okay for practice exam)

* ***Open PracticeComputerExamSpring2017 solution file from your desktop.***

1. **Determine Tax with Method (36 points)**

In this form, the user will enter the total sales for the month, choose state or local tax and hit enter. The program will calculate the tax that the business owes and display the results in a message box.

* Open frmDetermineTax and make sure that it is set as the StartUp Object.
* Open program.cs
* Uncomment the form that you want for your startup object.

Application.Run(new frmDetermineTax());

* In the solution explorer window, make sure that frmDetermineTax.cs is selected and the frmDetermineTax form is open in design mode.
* **No input validation is required.**

a. At the class level

* + Write a comment including your name.
  + Declare a constant for the state sales tax rate of .07
  + Declare a constant for the local sales tax rate of .03

b. In the btnCalc click event procedure:

* Declare variables, dblTaxRate and dblTotalSales as double data type.
* Convert the value entered into txtTotalSales and assign to the variable, dblTotalSales.
* Depending on which radio button is selected, assign one of the tax rate constants’ values to dblTaxRate.
* Call the value returning method GetTax. Pass dblTotalSales and dblTaxRate, to the method.

Display the returned result in a messagebox. Include a caption, “Tax” and display the message in the following format:

The tax amount is $XX.XX

c. Declare the value returning method, GetTax. Include parameters for the total sales and the tax rate. In the method:

* Declare a variable named dblTaxOwed as double data type.
* Calculate the tax owed by multiplying the total sales by the tax rate. Assign the result to dblTaxOwed.
* Return dblTaxOwed as a string formatted as currency to be displayed in a message box.

d. In the btnReset click event procedure:

* Clear the text in txtTotalSales .
* Set the radio buttons to their original settings.
* Move the cursor to txtTotalSales.

1. **Loops and Arrays. (28 points)**

This form will calculate and display the increase in college tuition for the next 5 years. The user will enter the current tuition in a textbox. Using a loop, calculate and display the future tuition in a listbox. It will also average the elements of an array.

* Set frmLoops as your StartUp Object.
* Open program.cs
* Uncomment the line below and comment the lines with the other forms.

Application.Run(new frmLoops());

* **No input validation required.**

a. In the form design, include your name in the title bar.

b. In the btnCalculate click event method:

* Declare variables, dblTuition as double data type.
* Declare a variable, intCount, as integer data type to use as a counter variable.
  + Convert the input in txtTuition to double data type and assign it to the variable, dblTuition.
  + Define a for loop to calculate and display a 5% increase in tuition for the next 5 years.

For each iteration of the loop:

* + - Multiply dblTuition by 1.05 and assign the result to dblTuition.
    - Display the results in lstTuition listbox in the format below: where “Year” is a string, the number of the year comes from intCount and dblTuition is formatted as currency.

Year 1 $10,500.00

Year 2 $11,025.00

:

Year 5 $12,762.82

c. In the btnArray click event procedure:

* Declare variables named dblTotal and dblAverage as double data type.
* An array named dblCollegeTuition was declared for you and was assigned initial values.
* Write a foreach loop to accumulate a total of the values of the elements of the array, dblCollegeTuition.
* For each iteration of the loop:
  + Add the value of the array element to dblTotal.
* Calculate the average tuition by dividing dblTotal by the length property of the array. Assign the average to dblAverage.
* Display the average in the listbox, lstTuition in the following format:
  + The average tuition is $XX,XXX.XX

d. In the btnReset click event procedure:

* Clear the lstTuition listbox.
* Clear the txtTuition textbox.
* Move the cursor to the txtTuition textbox.

**3. Validate Input (36 points)**

In this form the user chooses a textbook and enters a quantity to purchase. The program will determine the shipping cost and add it to the total cost of the textbooks.

a. Set frmShipping as your StartUp Object.

* Open program.cs
* Uncomment the line below and comment the lines with the other forms.

Application.Run(new frmShipping());

b. In the form design, set the btnCalc button as the Accept Button and btnExit button as the Cancel Button.

c. At the class level:

* Include a comment with your name.
* Declare constants to store the **prices** of the textbooks. (These values will be used in arithmetic statements)

|  |  |
| --- | --- |
| C# | $120.00 |
| VB | $100.00 |

* Declare constants to store the **shipping cost per textbook.** (These values will be used in arithmetic statements)

|  |  |
| --- | --- |
| < 20 | $2.00 |
| 20-49 | $1.00 |
| 50 + | $ .50 |

d. When the Calculate button is clicked:

* Declare local variables dblQuantity and dblPrice as double data type.
* Make sure that the quantity is entered correctly. It must be a **number** greater than 0. If so:
  + Convert the input in txtQuantity textBox to double and assign to the variable, dblQuantity.
  + Determine the price based on the textbook selected. Assign the price constant to dblPrice.
  + Call the void method, GetShipping. Pass the variables dblQuantity and dblPrice.
* If quantity is invalid:
  + Move the cursor to txtQuantity
  + SelectAll text in txtQuantity
  + In a MessageBox, display the message, “Please enter a number”. Include the caption, “Input Error”

e. Declare the void method GetShipping. Include parameters to accept dblPrice and dblQuantity. In the method:

* Declare a variable of double data type named dblShipCost to store the total shipping cost.
* Declare a variable of double data type named dblTotal to store the total sales.
* Determine the shipping costs based on the number of textbooks.
* Under 20 textbooks = $2.00 per textbook
* 20-49 textbooks = $1.00 per textbook
* 50 or more textbooks = .50 per textbook
* Calculate dblTotal with the following formula: Textbook price \* quantity + shipping cost. Assign the result to dblTotal.
* Display the shipping costs in the label, lblShipping. Display it formatted as currency.
* Display the resulting total (dblTotal) in the lblTotal label. Format as currency with 2 decimal places.

## Upload your PracticeComputerExamSpring2017 folder to your folder on <ftp://stf.bus.lsu.edu>. If you have not perfectly completed this practice exam, you have until class begins on Tuesday to upload your changes.

***Before leaving the lab, turn in these instructions with your name and pawsid written on the first page. A copy of the instructions will be emailed to you.***