

Please work in groups of two on this lab.

Write three independent functions to handle the problem of calculating the bill at a coffee shop. The first prompts for input values and gives them back to the caller; the second calculates the extended line amounts, subtotal, tax, and grand total of the bill; and the third prints the bill itself. The tasks done by the functions **MUST** be broken up along these lines. Write a `main()` function that declares **local** variables for the values you need to handle and passes them to the functions as needed. You may not use any global variables for this lab. Global constants are O.K.

The coffee shop sells espresso coffee for \$1.25 per cup, bagels for \$1.50 each and Danish pastries for \$2.25 each. Prompt the user for the number of each item purchased, and verify the inputs. Force all input values to be greater than or equal to zero, with validation of the values done independently. You may do item prompting in a sub-function. The calculation function needs to take the input values, and calculate the subtotal, tax at 9%, and grand total. The output routine will print something like this:

```

                My Coffee Shop
Item           Quantity  Price

Coffee                3    $3.75 // you may shift $ signs left
Bagels                2    $3.00
Danish                1    $2.25

Sub Total                        $9.00

Tax                            $ .81 // you may print leading 0s
                                // before any decimal point

Total                        $9.81

```

Pick a reasonable name for your coffee shop. Test your program with several sales, using 0 or more items of each type. Your prompts and input will appear in the output before the receipt prints. **Again, you MAY NOT use ANY global variables for this program. You MUST use pass-by-reference parameters where appropriate and pass-by-value parameters where appropriate.**