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**Design Notebook 3**

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**Max Santomauro**

**Assignment #3**

**Step 1: Problem Statement**

Create a "very" simple Smoothie Bar that allows an employee to take an order and produce a receipt.

The program reports the type of smoothie the customer ordered, any “add-in” that was selected, taxes, and total cost. The program must handle ***invalid user selections***.

**Step 2: Understandings**

**What do I know**

* I have gotten better at data type conversion and output numerical results to the desired amount of decimal places.

**What I Don’t Know – What I’m struggling with – Questions I have**

* Is there a way in which to output the result evenly no matter the length of the variables as a table?

**Step 3: Pseudocode for Main**

* Assign constant double data type to the variable TAX\_RATE and equal the variable to 8.15 divided by 100.
* Assign string data types to a smoothie choice variable and equal it to an empty string.
  + Smoothie\_Choice
* Assign constant double data types to smoothie variables prices and equal them to the following prices for each (exclude “$” when coding for now):
  + BerryBanana\_Price = $6.75
  + Tropical\_Price = $5.00
  + GreenJolt\_Price = $1.50
* Ask user to input name of customer
* Display the menu of smoothie options as shown below:

Option Type Price

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1 Berry Banana $6.75

2 Tropical $5.00

3 Green Jolt $7.50

* Ask user to input smoothie option number of 1, 2, or 3.
  + If user inputs anything other than 1, 2, or 3, output “invalid smoothie entry” and end the program.
* If the user chooses 1, assign the string “Berry Banana” along with the price to Smoothie\_Choice.
* If the user chooses 2, assign the string “Tropical” along with the price to Smoothie\_Choice.
* If the user chooses 3, assign the string “Green Jolt” along with the price to Smoothie\_Choice.
* Assign string data types to an add-in choice variable and equal it to an empty string.
  + Add\_In\_Choice
* Assign constant double data types to the add-in and no add-in price variable prices and equal them to the following price for each (exclude “$” when coding for now):
  + Note: both the Almond Butter and Lime\_Juice add-ins have the same price
  + Add\_In\_Price = $1.25
  + No\_Add\_In\_Price = $0.00
* Display the menu of add-in options as shown below:

Option Add-In Price

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1 No add-in $0.00

2 Almond Butter $1.25

3 Lime juice $1.25

* Ask user to input add-in option number of 1, 2, or 3.
  + If user inputs anything other than 1, 2, or 3, output “invalid add-in entry” and end the program.
* If the user chooses 1, assign the string “No add-in” along with the price to Add\_In\_Choice.
* If the user chooses 2, assign the string “Almond Butter” along with the price to Add\_In\_Choice.
* If the user chooses 3, assign the string “Lime Juice” along with the price to Add\_In\_Choice.
* Calculate the tax of both added options and add it to a Tax variable.
* Determine total cost by adding both option and the tax and assign it to a Total Cost variable.
* Compute and display
  + Type of smoothie order and its cost
  + Cost for add-in if one was selected
  + Taxes
  + Total cost
  + Example shown below

Option Type Price

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1 Berry Banana $6.75

2 Tropical $5.00

3 Green Jolt $7.50

Select a smoothie: 1, 2, or 3: **2**

Option Add-In Price

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1 No add-in $0.00

2 Almond Butter $1.25

3 Lime juice $1.25

Select an add-in: **2**

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Tropical Smoothie $ 5.00

Almond Butter $ 1.25

Taxes $ 0.51

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Total Cost $ 6.76

**Step 4: Lessons Learned**

* I know how to create if, else if, and else conditions.
* I know how to terminate a running program using the System.*exit*(0) method.
* I understand how to apply boolean type and expressions.