**02.06 Module Two Project**

**Directions**

Now that you have an understanding of using functions and operations with numerical and non-numerical data, it's time to show your instructor and yourself what you can do with them! You will use the software development life cycle (SDLC) to create a working program of your choice that will perform calculations with user input. Your program can include any Python skills and functions you have learned up to this point.

**This assignment has five steps.**

**Step One: Planning & Analysis**

Read the options carefully and choose **ONE** as the basis of your project.

**Option 1 – Wish List**

Have your eye on a new gadget? A new game? Maybe some new clothes? Well, now's your chance to create a program that calculates the total cost of three items on your wish list, including tax and shipping.

Follow these steps to begin your planning:

1. Create a wish list by selecting at least three items you want.
2. Do your research. Find the online store(s) where you can purchase your wish list items and record the price of each one.
3. Think about what user input is required for others to use your program.
4. Think about how you will write an equation to calculate the subtotal of your three items, the tax, and the total purchase cost with tax and shipping. **Note:** Use 6.5% tax and a $5.99 flat-rate shipping fee for your program.
5. The output must include the following: name of each item, item price, subtotal for items, total amount of tax, shipping fee, and total purchase cost with tax and shipping.

Use this table to organize your data:

|  |  |
| --- | --- |
| Item | Price |
| F1 2020 Xbox One Game | $60.00 |
| Apple Watch Series 3 | $230.00 |
| Logitech Gaming Headset | $50.00 |

**Step Two: Design**

It's time to design your program by writing pseudocode. Your outline must include the following elements:

* Input statements
  + Ask the user for at least three numeric values.
  + Show proper use of the int() and float() functions.
  + Calculations required to achieve correct output.
  + Use proper order of operations.
  + Use any appropriate math functions.
  + Output statements
  + Create clear and well organized output to share the data and results of the calculations.
  + Show proper use of the str() function.

**Insert your pseudocode here:**

|  |  |
| --- | --- |
| **INPUT** | **Price of “F1 2020 Xbox One Game”** |
| **Price of “Apple Watch Series 3”** |
| **Price of “Logitech Gaming Headset”** |
| **CALCULATIONS** | **sum( subTotal of all Items)** |
| **tax( subTotal \* 0.065)** |
| **orderTotal( subTotal + tax + shipping)** |
| **OUTPUT** | **Price of “F1 2020 Xbox One Game”** |
| **Price of “Apple Watch Series 3”** |
| **Price of “Logitech Gaming Headset”** |
| **sum( subTotal of all Items)** |
| **tax( subTotal \* 0.065)** |
| **orderTotal( subTotal + tax + shipping)** |

**Step Three: Coding**

Use the following guidelines to code your program:

* 1. To code the program, use the Python IDLE.
  2. Using comments, type a heading that includes your name, today's date, and a short description of the program.
  3. Follow the Python style conventions regarding indentation and the use of white space in your program.
  4. Use meaningful names for all variables.

**Insert a copy of your code from the IDLE here**:

'''  
Shashank Navale  
07/20/2020  
Purpose: To calculate the Subtotal and Order Total that is including Tax and Shipping of the items in my wish list.  
'''  
*def* main():  
#program inputs  
 print("Welcome to your Wish List Calculator")  
 f1 = float(input("Please enter the Price of F1 2020 Xbox Game $")) #asks for user input for the price  
 appleWatch = float(input("Please enter the Price of Apple Watch Series 3 $")) #asks for user input for the price  
 gamingHeadset = float(input("Please enter the Price of the Logitech Gaming Headset $")) #asks for user input for the price  
  
#variable assignment  
 subTotal = f1 + appleWatch + gamingHeadset # sums all prices  
 tax = subTotal \* 0.065 #calcualtes the tax based on subTotal  
 orderTotal = subTotal + tax + 5.99  
 orderTotal1 = "{:.2f}".format(orderTotal)  
  
#Order Receipt  
 print("Your Wishlist:")  
 print("")  
 print("Items Cost")  
 print("F1 2020 Xbox One $"+str(f1))  
 print("Apple Watch Series 3 $"+str(appleWatch))  
 print("Logitech Gaming Headset $"+str(gamingHeadset))  
 print("----------------------------------")  
 print("Subtotal: $"+str(subTotal))  
 print("Tax: $"+str(tax))  
 print("Shipping: $5.99")  
 print("Order Total: $"+str(orderTotal1))  
main()

**Step Four: Testing**

Run your code and evaluate the output. Then, answer the following questions in the testing chart. Use two to three meaningful sentences to answer each question.

|  |  |
| --- | --- |
| Testing Question | Response |
| What bugs did you identify in your code? | The main bug/problem I found was that the output of the Order Total was a large decimal. |
| How did you fix the bugs? | I fixed this bug by creating another variable as seen on Line 17 and used the “{:.2f}” command to limit the decimal places to only two places. I learnt this by researching on Google about this problem. |

**Step Five: Maintenance**

Passionate programmers strive to improve their code! In two to three meaningful sentences, answer the following questions in the maintenance chart to consider the next steps of your program.

|  |  |
| --- | --- |
| Maintenance Question | Response |
| What design and functionality improvements could you make to your program? | I think we can add an additional feature of adding more items to the Wishlist and bring in features that will change the shipping fee based on the User’s location. |
| How can you get feedback on ways to improve your program? | We can get feedback by asking Users to test the program and get a feedback about what can be improved or what additional features can be added. |
| How can you expand your program into a new, better program in the future? | I think we can expand it by making more complex and more efficient by releasing frequent updates and fixing bugs and adding user requested features, constantly. |
| What are potential bugs that users may possibly encounter if your program is expanded into a new program in the future? | Some potential bugs the user may face maybe with the location based shipping fee. This kid of error may occur when Python doesn’t recognize the user inputted location. This can be fixed by frequently updating the location database. |