**Module 8: Portfolio Project**

**Github:**

https://github.com/damansandhu/CSU\_Global\_Module\_8\_Milestone

**Pseudocode:**

**Milestone 1: Implementing ItemToPurchase Class and Basic Cart Functionality**

**ItemToPurchase Class**

* **Attributes:**
  + **item\_name: String (default: "none")**
  + **item\_price: Float (default: 0)**
  + **item\_quantity: Integer (default: 0)**
* **Methods:**
  + **print\_item\_cost():**
    - **Calculate total cost = item\_price \* item\_quantity**
    - **Print item\_name, item\_quantity, and total cost in the format:**
      * **"{item\_name} {item\_quantity} @ ${item\_price} = ${total\_cost}"**

**Main Program for Milestone 1**

1. **Prompt the user for the details of two items:**
   * **For each item, get the item name, price, and quantity**
   * **Create two ItemToPurchase objects using the user input**
2. **Print the cost of each item:**
   * **Call the print\_item\_cost() method for each object**
3. **Calculate the total cost:**
   * **Sum the total cost of both items and print it**

**Milestone 1 Pseudocode:**

1. **Create Class:**
   * **Define ItemToPurchase class with attributes and method print\_item\_cost()**
2. **Main Program:**
   * **Prompt user to input details for item 1 (name, price, quantity)**
   * **Create ItemToPurchase object for item 1**
   * **Prompt user to input details for item 2 (name, price, quantity)**
   * **Create ItemToPurchase object for item 2**
   * **Print cost for item 1**
   * **Print cost for item 2**
   * **Calculate and print total cost of both items**

**Milestone 2: ShoppingCart Class and Full Cart Functionality**

**ShoppingCart Class**

* **Attributes:**
  + **customer\_name: String (default: "none")**
  + **current\_date: String (default: "January 1, 2020")**
  + **cart\_items: List of ItemToPurchase objects (default: empty list)**
* **Methods:**
  + **add\_item(item):**
    - **Append the item to the cart\_items list**
  + **remove\_item(item\_name):**
    - **Loop through cart\_items**
    - **If an item with item\_name is found, remove it from the list**
    - **If not found, print "Item not found in cart. Nothing removed."**
  + **modify\_item(item):**
    - **Loop through cart\_items**
    - **If an item with item\_name is found, update its price and quantity**
    - **If not found, print "Item not found in cart. Nothing modified."**
  + **get\_num\_items\_in\_cart():**
    - **Return the sum of quantities of all items in cart\_items**
  + **get\_cost\_of\_cart():**
    - **Return the sum of total costs (item price \* quantity) of all items in the cart**
  + **print\_total():**
    - **If cart\_items is empty, print "SHOPPING CART IS EMPTY"**
    - **Otherwise, print each item's details and the total cost of the cart**
  + **print\_descriptions():**
    - **Print the description of each item in cart\_items**

**Main Program for Milestone 2**

1. **Prompt the user for the customer’s name and the current date:**
   * **Use these inputs to create a ShoppingCart object**
2. **Display the menu with the following options:**
   * **Add item to cart**
   * **Remove item from cart**
   * **Change item quantity**
   * **Output items' descriptions**
   * **Output shopping cart**
   * **Quit the program**
3. **Handle user inputs:**
   * **If the user chooses 'a' (add item):**
     + **Prompt for item name, description, price, and quantity**
     + **Create an ItemToPurchase object and add it to the cart**
   * **If the user chooses 'r' (remove item):**
     + **Prompt for the item name and remove it from the cart**
   * **If the user chooses 'c' (change item quantity):**
     + **Prompt for the item name and the new quantity, and modify the item**
   * **If the user chooses 'i' (output item descriptions):**
     + **Call print\_descriptions() to output all item descriptions**
   * **If the user chooses 'o' (output shopping cart):**
     + **Call print\_total() to output all items and the total cost**
   * **If the user chooses 'q' (quit):**
     + **Exit the program**
   * **If the user inputs an invalid option, prompt for valid input**

**Milestone 2 Pseudocode:**

1. **Create Class:**
   * **Define ShoppingCart class with attributes and methods to handle adding, removing, modifying items, and printing the cart**
2. **Main Program:**
   * **Prompt user to input customer’s name and date**
   * **Create ShoppingCart object using provided details**
   * **Loop until user chooses to quit:**
     + **Display menu options**
     + **If user chooses 'a', prompt for item details and add item to cart**
     + **If user chooses 'r', prompt for item name and remove item from cart**
     + **If user chooses 'c', prompt for item name and new quantity, modify item in cart**
     + **If user chooses 'i', print descriptions of all items in the cart**
     + **If user chooses 'o', output total items and total cost of the cart**
     + **If user enters invalid input, prompt again**
     + **If user chooses 'q', quit the program**

**Combined Summary of Both Milestones:**

1. **Milestone 1:**
   * **Implement ItemToPurchase class**
   * **Create two items, print item costs, and calculate the total cost**
2. **Milestone 2:**
   * **Implement ShoppingCart class**
   * **Add, remove, and modify items in the cart**
   * **Print cart details and item descriptions**
   * **Implement menu to interact with the shopping cart**

**Screenshots:**

A screen shot of a computer program

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