**Source code for Shopping cart:**

class ShoppingCart:

def \_\_init\_\_(self, customer\_name="none", current\_date="January 1, 2020"):

self.customer\_name = customer\_name

self.current\_date = current\_date

self.cart\_items = []

def add\_item(self, item\_to\_purchase):

"""Adds an item to the cart."""

self.cart\_items.append(item\_to\_purchase)

def remove\_item(self, item\_name):

"""Removes an item from the cart by name."""

item\_found = False

for item in self.cart\_items:

if item['name'] == item\_name:

self.cart\_items.remove(item)

item\_found = True

break

if not item\_found:

print("Item not found in cart. Nothing removed.")

def modify\_item(self, modified\_item):

"""Modifies an item’s description, price, or quantity."""

item\_found = False

for item in self.cart\_items:

if item['name'] == modified\_item['name']:

if modified\_item['description'] != "none":

item['description'] = modified\_item['description']

if modified\_item['price'] != 0:

item['price'] = modified\_item['price']

if modified\_item['quantity'] != 0:

item['quantity'] = modified\_item['quantity']

item\_found = True

break

if not item\_found:

print("Item not found in cart. Nothing modified.")

def get\_num\_items\_in\_cart(self):

"""Returns total number of items in the cart."""

return sum(item['quantity'] for item in self.cart\_items)

def get\_cost\_of\_cart(self):

"""Calculates and returns the total cost of the cart."""

total\_cost = 0

for item in self.cart\_items:

total\_cost += item['price'] \* item['quantity']

return total\_cost

def print\_total(self):

"""Prints the total cost of the shopping cart."""

if len(self.cart\_items) == 0:

print("SHOPPING CART IS EMPTY")

else:

print(f"{self.customer\_name}'s Shopping Cart - {self.current\_date}")

print(f"Number of Items: {self.get\_num\_items\_in\_cart()}")

for item in self.cart\_items:

print(f"{item['name']} {item['quantity']} @ ${item['price']} = ${item['quantity'] \* item['price']}")

print(f"Total: ${self.get\_cost\_of\_cart()}")

def print\_descriptions(self):

"""Prints descriptions of each item in the cart."""

if len(self.cart\_items) == 0:

print("SHOPPING CART IS EMPTY")

else:

print(f"{self.customer\_name}'s Shopping Cart - {self.current\_date}")

print("Item Descriptions")

for item in self.cart\_items:

print(f"{item['name']}: {item['description']}")

def print\_menu(cart):

"""Displays a menu of options and handles user input."""

while True:

print("\nMENU")

print("a - Add item to cart")

print("r - Remove item from cart")

print("c - Change item quantity")

print("i - Output items' descriptions")

print("o - Output shopping cart")

print("q - Quit")

choice = input("Choose an option: ").lower()

if choice == 'a':

name = input("Enter item name: ")

description = input("Enter item description: ")

price = int(input("Enter item price: "))

quantity = int(input("Enter item quantity: "))

item = {'name': name, 'description': description, 'price': price, 'quantity': quantity}

cart.add\_item(item)

elif choice == 'r':

name = input("Enter the name of the item to remove: ")

cart.remove\_item(name)

elif choice == 'c':

name = input("Enter the name of the item to modify: ")

description = input("Enter the new description (or 'none' to leave unchanged): ")

price = int(input("Enter the new price (or 0 to leave unchanged): "))

quantity = int(input("Enter the new quantity (or 0 to leave unchanged): "))

modified\_item = {'name': name, 'description': description, 'price': price, 'quantity': quantity}

cart.modify\_item(modified\_item)

elif choice == 'i':

cart.print\_descriptions()

elif choice == 'o':

cart.print\_total()

elif choice == 'q':

break

else:

print("Invalid option, try again.")

def main():

customer\_name = input("Enter customer's name: ")

current\_date = input("Enter today's date: ")

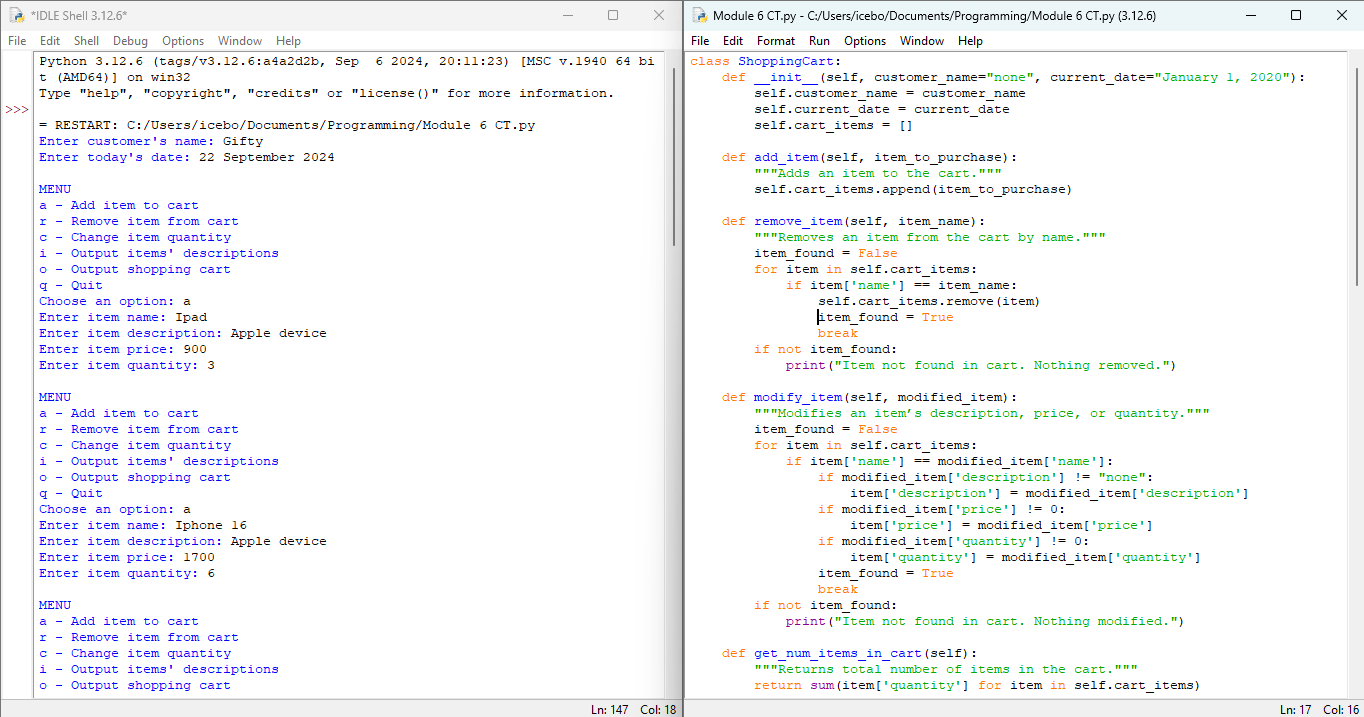
cart = ShoppingCart(customer\_name, current\_date)

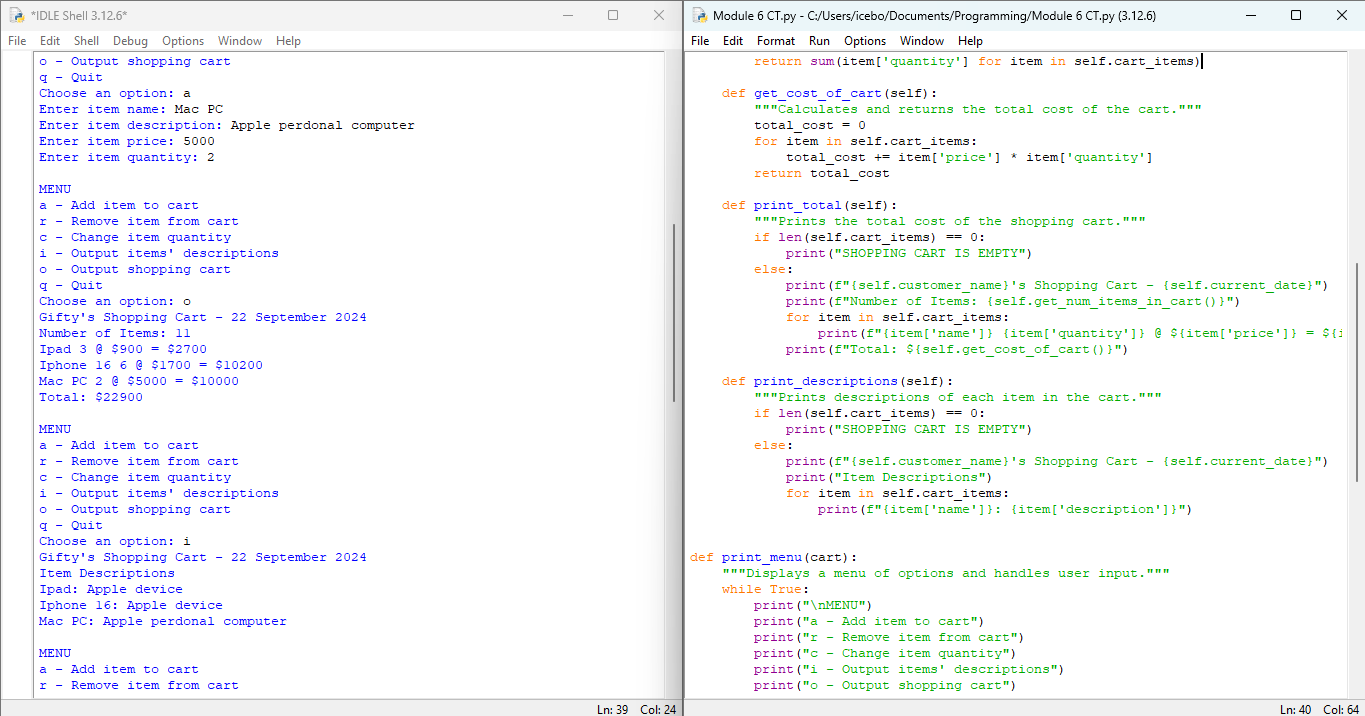
print\_menu(cart)

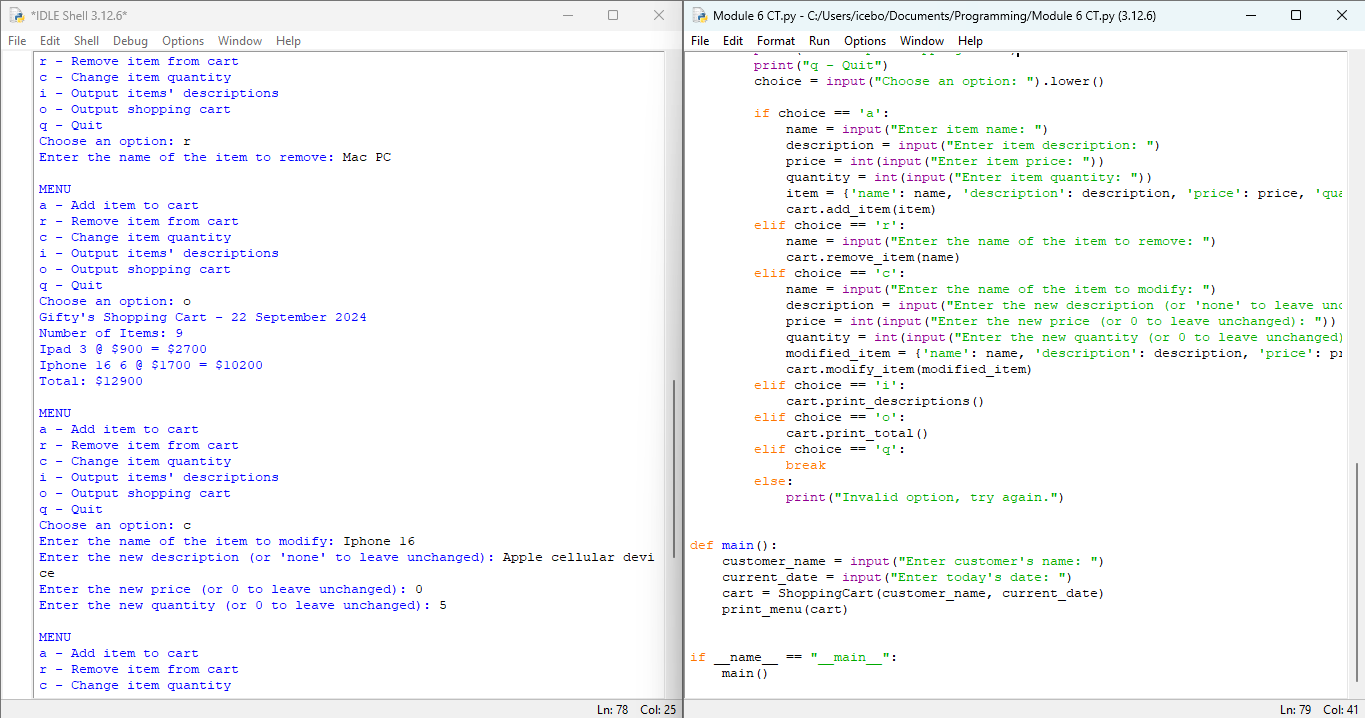
if \_\_name\_\_ == "\_\_main\_\_":

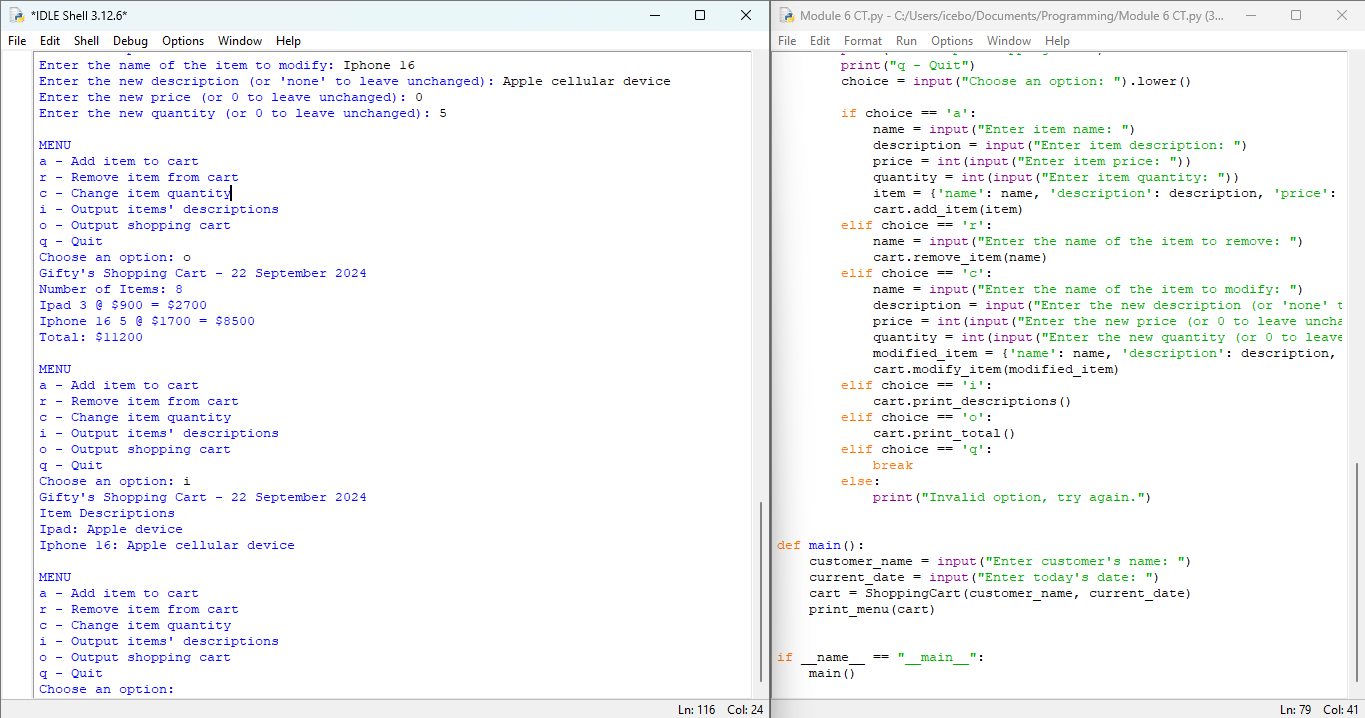
main()

**Screenshots of Results:**

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