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# ItemToPurchase Class
class ItemToPurchase:
    def __init__(self, item_name="none", item_price=0.0, item_quantity=0):
        self.item_name = item_name
        self.item_price = item_price
        self.item_quantity = item_quantity

    def print_item_cost(self):
        total_cost = self.item_price * self.item_quantity
        print(f"{self.item_name} {self.item_quantity} @ ${self.item_price} = ${total_cost}")

# ShoppingCart Class
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):
        self.cart_items.append(item)

    def remove_item(self, item_name):
        for item in self.cart_items:
            if item.item_name == item_name:
                self.cart_items.remove(item)
                return
        print("Item not found in cart. Nothing removed.")

    def modify_item(self, modified_item):
        for item in self.cart_items:
            if item.item_name == modified_item.item_name:
                if modified_item.item_quantity != 0:
                    item.item_quantity = modified_item.item_quantity
                if modified_item.item_price != 0:
                    item.item_price = modified_item.item_price
                return
        print("Item not found in cart. Nothing modified.")

    def get_num_items_in_cart(self):
        return sum(item.item_quantity for item in self.cart_items)

    def get_cost_of_cart(self):
        return sum(item.item_price * item.item_quantity for item in self.cart_items)

    def print_total(self):
        print(f"{self.customer_name}'s Shopping Cart - {self.current_date}")
        if not self.cart_items:
            print("SHOPPING CART IS EMPTY")
        else:
            print(f"Number of Items: {self.get_num_items_in_cart()}")
            for item in self.cart_items:
                item.print_item_cost()
            print(f"Total: ${self.get_cost_of_cart()}")

    def print_descriptions(self):
        print(f"{self.customer_name}'s Shopping Cart - {self.current_date}")
        print("Item Descriptions")
        for item in self.cart_items:
            print(f"{item.item_name}: {item.item_quantity} @ ${item.item_price}")

# Print Menu Function
def print_menu(cart):
    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: ")

        if choice == 'a':
            print("\nADD ITEM TO CART")
            name = input("Enter the item name: ")
            price = float(input("Enter the item price: "))
            quantity = int(input("Enter the item quantity: "))
            cart.add_item(ItemToPurchase(name, price, quantity))
        elif choice == 'r':
            print("\nREMOVE ITEM FROM CART")
            name = input("Enter name of item to remove: ")
            cart.remove_item(name)
        elif choice == 'c':

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        print("\nCHANGE ITEM QUANTITY")
        name = input("Enter the item name: ")
        quantity = int(input("Enter the new quantity: "))
        cart.modify_item(ItemToPurchase(item_name=name, item_quantity=quantity))
    elif choice == 'i':
        cart.print_descriptions()
    elif choice == 'o':
        cart.print_total()
    elif choice == 'q':
        break
    else:
        print("Invalid option. Please try again.")

# Main Function
def main():
    customer_name = input("Enter customer's name: ")
    current_date = input("Enter today's date: ")
    print(f"\nCustomer name: {customer_name}")
    print(f"Today's date: {current_date}")

    shopping_cart = ShoppingCart(customer_name, current_date)
    print_menu(shopping_cart)

# Run the program
if __name__ == "__main__":
    main()

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MENU
a - Add item to cart
r - Remove item from cart
c - Change item quantity
i - Output items' descriptions
o - Output shopping cart
q - Quit
Choose an option: r

REMOVE ITEM FROM CART
Enter name of item to remove: Chocolate Chips

MENU
a - Add item to cart
r - Remove item from cart
c - Change item quantity
i - Output items' descriptions
o - Output shopping cart
q - Quit
Choose an option: c

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o - Output shopping cart  
q - Quit  
Choose an option: q
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