# Summary

An update from Module 4 milestone project. Decided to allow menu option ‘c’ to modify any attribute, takes in item name, and desired updates to price, quantity and description, and replaces those attributes if the item is found in the cart by name.

Description was not an item attribute in Module 4 but has been added to Module 6. Also no items have default values for description price and quantity, just stored values from adding items manually.

Decided to print the cart contents when selecting ‘c’ and ‘r’ to make it easier for user to copy/paste or type in an item name in the cart.

Made date get today’s date from python datetime module.

# Code

from datetime import date

# Create the shopping\_cart class

class shopping\_cart:

def \_\_init\_\_(self):

# Initialize cart as empty list

self.cart\_items = []

self.item = self.ItemToPurchase()

self.customer\_name = "none"

self.current\_date = "January 1, 2020"

def \_\_init\_\_(self, customer\_name, current\_date):

# Initialize cart as empty list

self.cart\_items = []

self.item = self.ItemToPurchase()

self.customer\_name = customer\_name

self.current\_date = current\_date

# Step 1: Build the ItemToPurchase class with the following specifications:

# - item\_name (string)

# - item\_price (float)

# - item\_quantity (int)

# Default constructor Initializes item's

# - name = "none"

# - item's price = 0

# - item's quantity = 0

# Method

# - print\_item\_cost()

# Create the ItemToPurchase class

class ItemToPurchase:

# Default constructor no parameters per assignment prompt

def \_\_init\_\_(self):

self.item\_name = "none" # string

self.item\_price = 0.0 # float (prompt said 0, but made float)

self.item\_quantity = 0 # int

self.item\_description = "none" # string

# print total cost of line item per assignment prompt

def print\_item\_cost(self):

self.price\_times\_qty = self.item\_price \* self.item\_quantity

print("%s %d @ $%0.2f = $%0.2f" % (self.item\_name,

self.item\_quantity,

self.item\_price,

self.price\_times\_qty))

# print descriptions

def print\_item\_description(self):

self.price\_times\_qty = self.item\_price \* self.item\_quantity

print("%s: %s" % (self.item\_name, self.item\_description))

# Add an item to the cart by creating an ItemToPurchase object and appending it to the cart list

def add\_item(self, ItemToPurchase):

self.cart\_items.append(ItemToPurchase)

# Remove item method by popping cart index

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

item\_found = False

for i in range(len(self.cart\_items)):

if item\_name in self.cart\_items[i].item\_name:

item\_found = True

print("\t%d %s removed from cart." % (self.cart\_items[i].item\_quantity, self.cart\_items[i].item\_name))

self.cart\_items.pop(i)

break

if not item\_found:

print("\tItem not found in cart. Nothing removed.")

# Modifies an item's description, price, and/or quantity. Has parameter ItemToPurchase. Does not return anything.

def modify\_item(self, ItemToPurchase):

item\_found = False

for i in range(len(self.cart\_items)):

if ItemToPurchase.item\_name in self.cart\_items[i].item\_name:

item\_found = True

print("\nItem %s found in cart...Updating..." % ItemToPurchase.item\_name)

self.cart\_items[i].print\_item\_cost()

print("\tHas been updated to:")

self.cart\_items[i].item\_quantity = ItemToPurchase.item\_quantity

self.cart\_items[i].item\_price = ItemToPurchase.item\_price

self.cart\_items[i].item\_description = ItemToPurchase.item\_description

self.cart\_items[i].print\_item\_cost()

break

if not item\_found:

print("\nItem not found in cart. Nothing modified.")

# Show cart contents method

def print\_cart\_contents(self, what):

print("-------------------------------------")

for x in range(len(self.cart\_items)):

print("Item %d: " % (x+1),end="")

if what == "items":

self.cart\_items[x].print\_item\_cost()

elif what == "description":

self.cart\_items[x].print\_item\_description()

print("-------------------------------------")

# Returns quantity of all items in cart. Has no parameters.

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

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

# Determines and returns the total cost of items in cart. Has no parameters.

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

return sum([items.price\_times\_qty for items in self.cart\_items])

# Outputs total of objects in cart.

def print\_total(self):

# Check if there are items in the cart

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

print("%s's Shopping Cart - %s" % (self.customer\_name, self.current\_date))

print("Number of Items: %d" % self.get\_num\_items\_in\_cart())

# print items in cart

self.print\_cart\_contents("items")

print("Total: $%.2f" % self.get\_cost\_of\_cart())

else:

print("\nSHOPPING CART IS EMPTY")

# Outputs each item's description.

def print\_descriptions(self):

# Check if there are items in the cart

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

print("%s's Shopping Cart - %s" % (self.customer\_name, self.current\_date))

print("Item Descriptions")

# print items in cart

self.print\_cart\_contents("description")

else:

print("\nSHOPPING CART IS EMPTY")

# Checkout method to print goodbye msg

def checkout(self):

if (self.get\_cost\_of\_cart() > 0):

print("\nThank you for shopping with us!")

else:

print("\nNothing in your cart, have a nice day!\n")

# Get user input

def print\_input():

print("\nMenu options:")

print("\ta - Add Item")

print("\tr - Remove Item")

print("\tc - Change item quantity")

print("\ti - Output items' descriptions")

print("\to - Output shopping cart")

print("\tq - Quit")

print("\t=====================================")

menu\_selection = input("\tPlease enter a menu selection and press enter: ")

# input validation

try:

# make sure inputs are from menu list

if (menu\_selection in ["a","r","c","i","o","q"]):

return menu\_selection

else:

return print\_input()

except:

return print\_input()

# Init shopping cart object

my\_cart = shopping\_cart("John Doe", date.today().strftime("%B %d, %Y"))

# Shopping loop

checkout = False # loop control variable

while not checkout:

# Present user with menu until checkout is true

user\_selection = print\_input()

# add or remove items from cart based on user selection, or checkout

match user\_selection:

case "a":

new\_item = my\_cart.ItemToPurchase()

try:

print("\nItem", len(my\_cart.cart\_items) + 1)

new\_item.item\_name = str(input("Enter the item name:\n"))

new\_item.item\_price = float(input("Enter the item price:\n"))

new\_item.item\_quantity = int(input("Enter the item quantity:\n"))

new\_item.item\_description = input("Enter the item description:\n")

print("\nAdded to cart: ",end="")

new\_item.print\_item\_cost()

my\_cart.add\_item(new\_item)

except:

print("Sorry, item name, price or quantity was not valid, nothing added.")

case "r":

# Print curret cart contents to select from

print("Cart Currently Contains:")

my\_cart.print\_cart\_contents("items")

# get user input of name of item to remove

item\_to\_remove = input("\nWhich item do you want to remove? (Enter Item name): ")

my\_cart.remove\_item(item\_to\_remove)

case "c":

# Print curret cart contents to select from

print("Cart Currently Contains:")

my\_cart.print\_cart\_contents("items")

# initialize an item to pass to modify\_item()

modified\_item = my\_cart.ItemToPurchase()

# get user input of name of item to modify

print("\nWhich item do you want to modify?")

modified\_item.item\_name = str(input("Enter the item name:\n"))

modified\_item.item\_price = float(input("Enter the desired item price:\n"))

modified\_item.item\_quantity = int(input("Enter the desired item quantity:\n"))

modified\_item.item\_description = input("Enter the desired item description:\n")

# Send item update data to modify\_item to update cart

my\_cart.modify\_item(modified\_item)

case "i":

print("\nOUTPUT ITEMS' DESCRIPTIONS")

my\_cart.print\_descriptions()

case "o":

print("\nOUTPUT SHOPPING CART")

my\_cart.print\_total()

case "q":

# end shopping loop

checkout = True

# print good bye msg

my\_cart.checkout()

case \_:

pass

# Screenshots

## Adding items

A screenshot of a computer program

Description automatically generated

## Updating an item

A screenshot of a computer

Description automatically generated

## Updating an item (not in cart)

A screenshot of a computer screen

Description automatically generated

## Remove an item

A screenshot of a computer

Description automatically generated

## Remove an item (not in cart)

A screenshot of a computer screen

Description automatically generated

## Output Items’ Descriptions

A screenshot of a computer program

Description automatically generated

## Output Shopping Cart

A screenshot of a computer screen

Description automatically generated

## Quit

A screenshot of a computer

Description automatically generated

# Gitlab link

<https://github.com/wheyluhai/csuglobal/tree/main/CSC500-1/Module_6>