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Course: CSC 500 – Principles of Programming

Module: 8 – Final Portfolio Assignment

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Python3 Code ~

# COPY THIS LINE OF CODE - BEGINNING

class ItemToProcure:

def \_\_init\_\_(self, product\_name="none", dollar\_value\_of\_product=0, numerical\_quantity\_of\_product=0):

self.product\_name = product\_name

self.dollar\_value\_of\_product = dollar\_value\_of\_product

self.numerical\_quantity\_of\_product = numerical\_quantity\_of\_product

def console\_log\_product\_cost(self):

total\_grocery\_cart\_cost = self.dollar\_value\_of\_product \* self.numerical\_quantity\_of\_product

print(

f"{self.product\_name} {self.numerical\_quantity\_of\_product} @ ${self.dollar\_value\_of\_product} = ${total\_grocery\_cart\_cost}")

def initial\_product\_to\_cart(cart):

product\_name = input("Whats the description of the first item:\n")

product\_dollar\_value = float(input(f"Whats the dollar value of the {product\_name}:\n"))

product\_quantity = int(input(f"Whats the quantity of the {product\_name}:\n"))

item = ItemToProcure(product\_name, product\_dollar\_value, product\_quantity)

cart.add\_product(item)

print("\nHERE IS THE TOTAL COST OF THE ITEM")

item.console\_log\_product\_cost()

total\_grocery\_cart\_cost = cart.get\_cost\_of\_cart()

print(f"\nTotal: ${total\_grocery\_cart\_cost}")

class GroceryCartAtStore:

def \_\_init\_\_(self, grocery\_shoppers\_name="none", todays\_shopping\_date="January 1, 2020"):

self.grocery\_shoppers\_name = grocery\_shoppers\_name

self.todays\_shopping\_date = todays\_shopping\_date

self.products\_in\_shopping\_cart = []

def add\_product(self, item: ItemToProcure):

self.products\_in\_shopping\_cart.append(item)

def remove\_product(self, product\_name: str):

found = False

for item in self.products\_in\_shopping\_cart:

if item.product\_name == product\_name:

self.products\_in\_shopping\_cart.remove(item)

found = True

break

if not found:

print("The Item to be Removed, wasn't found in the cart, So nothing was REMOVED.")

def adjust\_item(self, product\_to\_modify: ItemToProcure):

found = False

for item in self.products\_in\_shopping\_cart:

if item.product\_name == product\_to\_modify.product\_name:

if product\_to\_modify.dollar\_value\_of\_product != 0:

item.dollar\_value\_of\_product = product\_to\_modify.dollar\_value\_of\_product

if product\_to\_modify.numerical\_quantity\_of\_product != 0:

item.numerical\_quantity\_of\_product = product\_to\_modify.numerical\_quantity\_of\_product

found = True

break

if not found:

print("The Item to be Modified, wasn't found in the cart, So nothing was MODIFIED.")

def get\_num\_items\_in\_cart(self) -> int:

total\_quantity = sum(item.numerical\_quantity\_of\_product for item in self.products\_in\_shopping\_cart)

return total\_quantity

def get\_cost\_of\_cart(self) -> float:

total\_grocery\_cart\_cost = sum(item.dollar\_value\_of\_product \* item.numerical\_quantity\_of\_product for item in

self.products\_in\_shopping\_cart)

return total\_grocery\_cart\_cost

def total\_output(self):

print(f"{self.grocery\_shoppers\_name}'s Grocery Cart - {self.todays\_shopping\_date}")

if not self.products\_in\_shopping\_cart:

print("THERE IS NOTHING IN THE Grocery Cart, IT IS EMPTY!")

else:

print(f"Total Number of Items in the Grocery Cart: {self.get\_num\_items\_in\_cart()}")

for item in self.products\_in\_shopping\_cart:

item.console\_log\_product\_cost()

print(f"\nTotal Cost of the Cart: ${self.get\_cost\_of\_cart()}")

def print\_descriptions(self):

print(f"{self.grocery\_shoppers\_name}'s Grocery Cart - {self.todays\_shopping\_date}")

print("Item Descriptions")

for item in self.products\_in\_shopping\_cart:

print(f"{item.product\_name}: {item.dollar\_value\_of\_product}")

def print\_menu(cart: GroceryCartAtStore):

menu = """

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

"""

while True:

print(menu)

choice = input(f"{cart.grocery\_shoppers\_name}, choose an option to edit your Grocery Cart:\n")

if choice == 'QUIT':

break

elif choice == 'ADD':

name = input(

f"{cart.grocery\_shoppers\_name}, what's the description of the item to add to the existing Grocery Cart:\n")

price = float(input(

f"{cart.grocery\_shoppers\_name}, what's the price of the {name} being added to the existing Grocery Cart:\n"))

quantity = int(input(

f"{cart.grocery\_shoppers\_name}, what's the quantity of the {name} being added to the existing Grocery Cart:\n"))

new\_item = ItemToProcure(name, price, quantity)

cart.add\_product(new\_item)

elif choice == 'REMOVE':

name = input(

f"{cart.grocery\_shoppers\_name}, what's the description of the item to remove from the existing Grocery Cart:\n")

cart.remove\_product(name)

elif choice == 'MODIFY':

name = input(

f"{cart.grocery\_shoppers\_name}, what's the description of the item to modify in the existing Grocery Cart:\n")

price = float(

input(f"{cart.grocery\_shoppers\_name}, what's the new price of {name} (or 0 to leave unchanged):\n"))

quantity = int(

input(f"{cart.grocery\_shoppers\_name}, what's the new quantity of {name} (or 0 to leave unchanged):\n"))

modified\_item = ItemToProcure(name, price, quantity)

cart.adjust\_item(modified\_item)

elif choice == 'IDENTIFY':

cart.print\_descriptions()

elif choice == 'OUTPUT':

cart.total\_output()

def main():

grocery\_shoppers\_name = input("What's the Grocery Shoppers Name:\n")

todays\_shopping\_date = input("What's the Date of the Grocery Shopping [Format ex: Month Date, Year [Sept 1st, 2024]]:\n")

print(f"Customer name: {grocery\_shoppers\_name}")

print(f"Today's date: {todays\_shopping\_date}")

cart = GroceryCartAtStore(grocery\_shoppers\_name, todays\_shopping\_date)

initial\_product\_to\_cart(cart)

print\_menu(cart)

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

main()

# COPY THIS LINE OF CODE – ENDING

***output***

/Users/asaqx645/PycharmProjects/csc500/csc500\_venv/bin/python /Users/asaqx645/PycharmProjects/csc500/csc\_500\_prin\_of\_prg/MODULE8/portfolio-assignment-module8-aditya-sandhu4.py

What's the Grocery Shoppers Name:

Adi Sandhu

What's the Date of the Grocery Shopping [Format ex: Month Date, Year [Sept 1st, 2024]]:

September 7th, 2024

Customer name: Adi Sandhu

Today's date: September 7th, 2024

Whats the description of the first item:

pizza

Whats the dollar value of the pizza:

15.09

Whats the quantity of the pizza:

2

HERE IS THE TOTAL COST OF THE ITEM

pizza 2 @ $15.09 = $30.18

Total: $30.18

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

ADD

Adi Sandhu, what's the description of the item to add to the existing Grocery Cart:

ice cream

Adi Sandhu, what's the price of the ice cream being added to the existing Grocery Cart:

7.99

Adi Sandhu, what's the quantity of the ice cream being added to the existing Grocery Cart:

1

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

IDENTIFY

Adi Sandhu's Grocery Cart - September 7th, 2024

Item Descriptions

pizza: 15.09

ice cream: 7.99

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

REMOVE

Adi Sandhu, what's the description of the item to remove from the existing Grocery Cart:

pizza

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

IDENTIFY

Adi Sandhu's Grocery Cart - September 7th, 2024

Item Descriptions

ice cream: 7.99

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

MODIFY

Adi Sandhu, what's the description of the item to modify in the existing Grocery Cart:

ice cream

Adi Sandhu, what's the new price of ice cream (or 0 to leave unchanged):

12.53

Adi Sandhu, what's the new quantity of ice cream (or 0 to leave unchanged):

2

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

OUTPUT

Adi Sandhu's Grocery Cart - September 7th, 2024

Total Number of Items in the Grocery Cart: 2

ice cream 2 @ $12.53 = $25.06

Total Cost of the Cart: $25.06

MENU

ADD - Add item to cart

REMOVE - Remove item from cart

MODIFY - Modify item quantity

IDENTIFY - Output items' descriptions

OUTPUT - Output Grocery Cart

QUIT - Quit

Adi Sandhu, choose an option to edit your Grocery Cart:

QUIT

Process finished with exit code 0

Git hub link - <https://github.com/65AR645ASAN/csc_500_prin_of_prg/blob/main/MODULE8/final-portfolio-assignment-module-8-aditya-sandhu.docx>