Intro to Programming

ASSESSMENT 2: Utility App

| Contribution towards overall module mark | 60% |
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**Assessment 2: Utility App**

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| **Github Repository Name** | jacemapagmahal |
| **Github Repository Link** | https://github.com/IntroToProgramming-CCL4/assessments-jacemapagmahal |
| **Repository Screen Shot** | A screenshot of a computer  Description automatically generated |

**The Development Document**

Brief

Sir Oliver, Our Intro to Programming professor. He Instructs us to make a Utility App, simply put a Vending Machine, which consists of a list of snacks and drinks. Also, a code that transacts money, how much will they pay, and how much change will they receive. You may see all of this in my GitHub repository link <https://github.com/IntroToProgramming-CCL4/assessments-jacemapagmahal>

**SPECIFICATION**

* A menu of drinks and snacks, and their prices.
* A code that will ask the user to select their specific drinks or snacks.
* A code that allows the user to select the amount of money they will pay for purchasing their drinks and snacks.
* A code that shows the available quantity of drinks and snacks.
* A code that allows the user to select the quantity of the drinks and snacks that they will purchase.
* A code that will show to the user that there is insufficient quantity of drinks and snacks, if they purchase an item that exceeds the quantity of the item.
* A code that will show to the user that there is insufficient amount of money to buy drinks and snacks, if they purchase any items that did not reach the amount.
* A code that asks the user if you would like to add drinks if you purchase a snack.
* A code that will ask the user if you would like to add snacks if you purchase a drink.
* A code that will show to the user how much the amount corresponds to the amount they want to purchase.
* A code that will show to the user if they want to receive a receipt.
* A code that will show to the user the receipt of the item they purchase.

**SYSTEM FLOWCHART**A screen shot of a diagram

Description automatically generated

As you can see in my flow chart, these are the programs that should be the basis of your Vending Machine, so it can operate and work smoothly. The Vending Machine should list of snacks and drinks alongside with their names, quantities, and costs, and you make a program that will always allow the users to put their specific items or the amount of money they will pay for the items.

**TECHNICAL DESCRIPTION**

In making a Vending Machine. There will always be a dictionary for the items that you will sell, including their names, costs, and quantities. Declare variables like the "stk1, stk2, price2, price, total, change, and the typeOfOrder. These will be the variables of your program. I also included a menu bar for my vending machine. I also made a program that will show the user the menus of drinks and snacks by defining a function getSnacks. Using for loops in range I print the item name and item price. I also declare a program that will ask the user to enter their order by using str function, for and if loops, I also declare a program by using the significance of True if the item is available and False if the item does not exist. By using a while loop, there would be an insufficient item for the user if the quantity is greater than the stock. By using str, I made a program that will ask the user if they want to have an addons on their order, by using also if-else-while loops I declare a program, that there would be an option that if you buy a drink, you can also buy a snack and also for the snacks vice versa. I also declare a program that will review all your orders, by printing the snacks and drinks and their quantities, and here is that computation for that, by multiplying the quantity and the price plus the quantity2 multiplied by price2. By using str, I made a program that will ask the user to proceed or cancel the payment. Using an if loop, there would be an option if yes you need to enter the money. Using a while loop, if the cash is less than the total, there should be not enough balance for the item to purchase. I also add some import time on my Vending Machine, and the time sleep is only 1 second. Lastly, using the str function I made a program that will ask the user for an option if they want to receive a receipt or not. I used while if-elif-else loops for printing the item, quantity, total amount to pay, total cash, and the change. The vending machine works well because it has many features that other vending machines do not have. These are the programs in how I made my Vending Machine.

**CRITICAL REFLECTION**

Analyzing vending machines is imperative due to their substantial societal impact. These devices, prevalent in various locations like offices, airports, hospitals, schools, and restaurants, offer a cost-effective and convenient means of acquiring goods and services. The objective is to contemplate the potential evolution of vending machines into social hubs while ensuring their advantages outweigh potential drawbacks.

Despite their practicality, certain individuals perceive vending machines as sources of distraction or unwarranted intrusions. The application of knowledge gained from coursework significantly contributes to achieving excellence in vending machine design. Systematic note-taking following classes aids in refining creative skills during the project development phase.

Selecting the most user-friendly program aligning with project objectives is essential. If limitations hinder the use of a specific course program, exploring alternative options fulfilling required functionalities is imperative. The emphasis on program simplification is critical to ensuring user comprehension and efficient vending machine operation without continual assistance.

The ultimate aim is to create a vending machine that is user-friendly, preventing frustration and encouraging sustained usage. Anticipation surrounds the exploration of Programming Fundamentals within the course, aiming to further enhance skills in this domain.

**APPENDIX**

import time

#Make a list of drinks and their name, price & quantity

drinks = [

    {

        'name':'Water',

        'price':10,

        'qty':10

    },

    {

        'name':'Cola',

        'price':12,

        'qty':10

    },

    {

        'name':'Iced Tea',

        'price':15,

        'qty':10

    },

    {   'name':'Coffee',

        'price':15,

        'qty':10

    },

    {   'name':'Sparkling Water',

        'price':18,

        'qty':10

    },

    {

        'name':'Juice',

        'price':15,

        'qty': 10

    }

]

#Make a list of snacks and their name, price & quantity

snacks = [

    {

        'name':'Sandwich',

        'price':18,

        'qty':10

    },

    {

        'name':'Footlong',

        'price':17,

        'qty':10

    },

    {

        'name':'Burger',

        'price':22,

        'qty':10

    },

    {

        'name':'Alfredo',

        'price':28,

        'qty':10

    },

    {   'name':'Steak',

        'price':40,

        'qty':10

    },

]

#Declare the variables

itemAvailable = False

stk = 0

stk2 = 0

price2 = 0

price = 0

total = 0

change = 0

typeOfOrder = ""

type = ""

#Make the menu

print("\*\*\*\*\*\*\*\*\*\*\* Memento Grill \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

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

#Make a program that will illustrate to the user the menus of drinks & snacks

def getSnacks():

    print("\nSnacks")

    for item in range(len(snacks)):

        print(str(item + 1) + ". " + str(snacks[item]["name"]) + " " + str(snacks[item]["price"]) +"$")

def getDrinks():

    print("\nDrinks")

    for item in range(len(drinks)):

        print(str(item + 1) + ". " + str(drinks[item]["name"]) + " "+ str(drinks[item]["price"]) + "$")

getSnacks()

getDrinks()

print("\n")

#Make a program that will ask the user to input their order

while itemAvailable == False:

    order = str(input("Enter your order: "))

    for items in range(len(snacks)):

        if snacks[items]["name"] == order:

            typeOfOrder = snacks

            itemAvailable = True

            break

    for items in range(len(drinks)):

        if drinks[items]["name"] == order:

            typeOfOrder = drinks

            itemAvailable = True

            break

    if itemAvailable == False:

        print("Order doesn't exist")

#Make a program that will show the name, price & quantity of item

if itemAvailable:

    for items in range(len(typeOfOrder)):

        if typeOfOrder[items]["name"] == order:

            stk = typeOfOrder[items]["qty"]

            price = typeOfOrder[items]["price"]

            break

    print(str(stk) + " available item/s")

    qty = int(input("Enter quantity to buy: "))

 #Make a program that will tell the user there is insufficient item

    while qty > stk:

        print("Insufficent item. There is only " + str(stk) + " available item/s")

        qty = int(input("Enter quantity to buy: "))

    if (typeOfOrder == drinks):

        addons = "Snacks"

    else:

        addons = "Drinks"

#Make a program that will ask the user that they will add another order

    wantAddOns = str(input("Would you like to add " + str(addons) + "? Y/N: "))

    print("\n")

    if wantAddOns == "Y":

        print("\n")

        type2 = ""

        if (addons == "Snacks"):

            getSnacks()

            type2 = snacks

        else:

            getDrinks()

            type2 = drinks

        itemAvailable = False

        while itemAvailable == False:

            order2 = str(input("Enter your order: "))

            for items in range(len(type2)):

                if type2[items]["name"] == order2:

                    stk2 = type2[items]["qty"]

                    price2 = type2[items]["price"]

                    itemAvailable = True

                    break

            if itemAvailable == False:

                print("Order doesn't exist")

        print(str(stk2) + " available item/s")

        qty2 = int(input("Enter quantity to buy: "))

        while qty2 > stk2:

            print("Insufficent item. There is only " + str(stk) + " available item/s")

            qty2 = int(input("Enter quantity to buy: "))

 #Make a program that will review your order

        print("\nPlease review your order!!!\n")

        print("Snacks: " + str(qty) + " " + order)

        print("Drinks: " + str(qty2) + " " + order2)

        total = (qty \* price) + (qty2 \* price2)

        print("Amount to pay: " + str(total) + "$")

#Make a program that will ask the user to proceed or cancel the payment

        proceed = str(input("\nProceed to your payment or cancel your order? Y/N: "))

        if proceed == "Y":

            cash = int(input("Enter your money: "))

            while cash < total:

                cash = int(input("Not enough balance. \nPlease enter your money again: "))

            print("\n" + "----------- " +  order + " has been received." + " ----------------")

            change = cash - total

 #Make a program that will ask the user if they want a receipt

            wantRcpt = str(input("Do you want a receipt? Y/N: "))

            if wantRcpt == "Y":

                x = 3

                while x > 0:

                    print("----------- " + "Please wait... " + str(x) + " ----------------")

                    time.sleep(1)

                    x -= 1

                print("\n \n")

                print("----------- " + "Receipt"  + " ----------------")

                print("Snack: " + order)

                print("Quantity: " + str(qty))

                print("Drinks: " + order2)

                print("Quantity: " + str(qty2))

                print("Total Amount to pay: " + str(total)  + "$")

                print("Total Cash: " + str(cash)  + "$")

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

            elif wantRcpt == "N":

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

            else:

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

        else:

            print("Cancel Order Successfully.")

    else:

        type = ""

        print("\nPlease review your order!!!\n")

        if typeOfOrder == drinks:

            print("Drinks: " + order)

            type = "Drinks"

        else:

            type = "Snacks"

            print("Snacks: " + order)

        print("Qty: " + str(qty))

        total = price \* qty

        print("Total amount to pay: " + str(total) + "$")

        proceed = str(input("\nProceed to your payment or cancel your order? Y/N: "))

        if proceed == "Y":

            cash = int(input("Enter your money: "))

#Make a program that will tell the user that there is not enough balance

            while cash < total:

                cash = int(input("Not enough balance. \nPlease enter your money again: "))

            print("\n" + "----------- " +  order + " has been received." + " ----------------")

            change = cash - total

            wantRcpt = str(input("Do you want a receipt? Y/N: "))

            if wantRcpt == "Y":

                x = 3

                while x > 0:

                    print("----------- " + "Please wait... " + str(x) + " ----------------")

                    time.sleep(1)

                    x -= 1

                print("\n \n")

                print("----------- " + "Receipt"  + " ----------------")

#Make a program that will show the quantity, total  amount to pay, total cash & change

                print(type + ": " + order)

                print("Quantity: " + str(qty))

                print("Total Amount to pay: " + str(total)  + "$")

                print("Total Cash: " + str(cash)  + "$")

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

            elif wantRcpt == "N":

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

            else:

                print("Change: " + str(change) + "$")

                print("----------- " + "Thank you come again!!!"  + " ----------------")

        else:

            print("Cancel Order Successfully.")