# EEI3372

# Programing with Python

# Mini Project

Name: D.A.R.T.Deshadi

Reg No: 619218839

1.

Main Problem: How to build automatic coffee maker.
Sub problems:

- This machine can be brew different type of coffees.
- Machine should be able to use both user and operator.
- Should be able to add new coffee type.
- Should be able to update coffee details. (Price)
- Should be able to delete coffee type.
- Should be able to display brewed coffees.

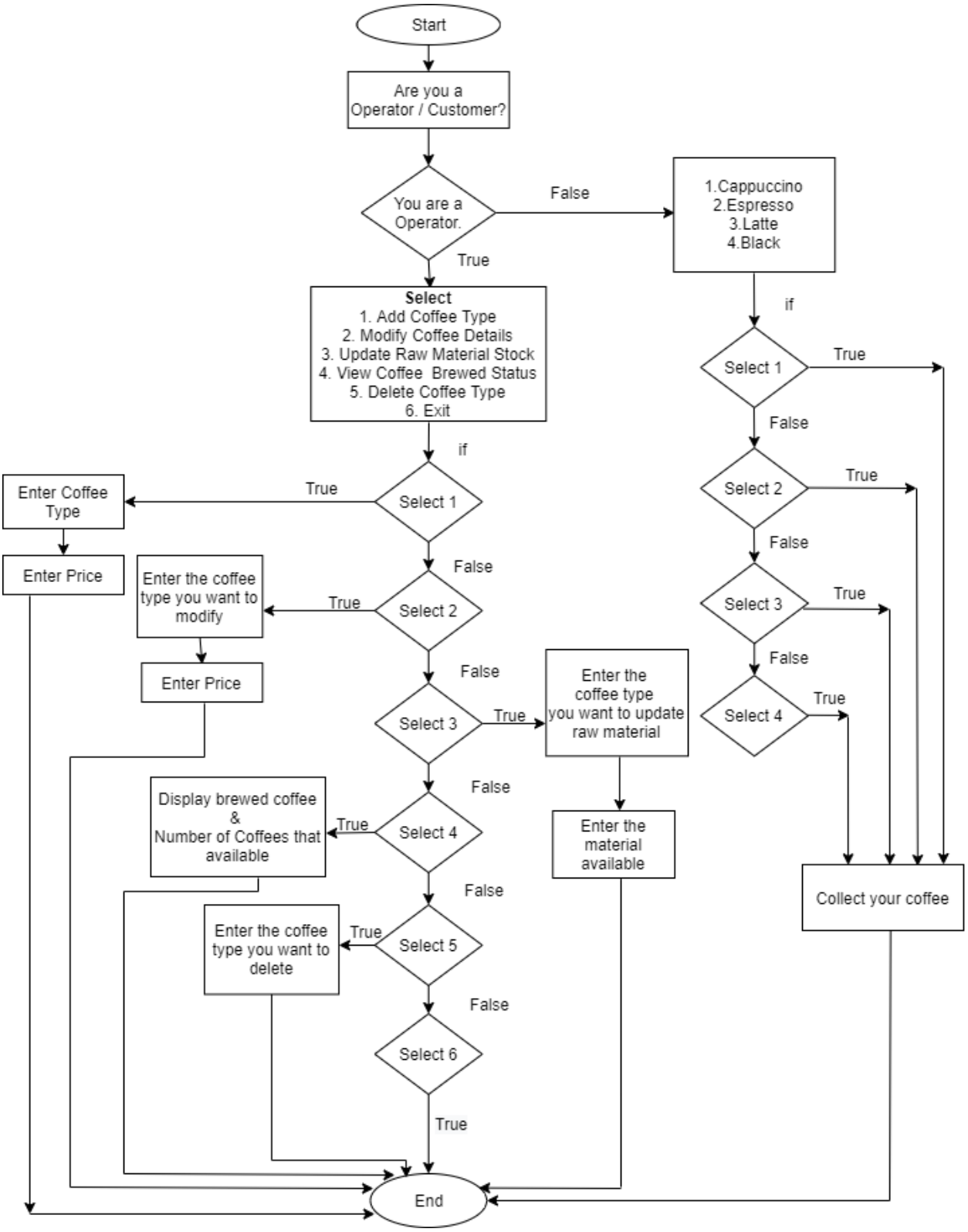
2.

Refer the internet and course material for improve my knowledge. After all of them I created this coffee machine.

Created a class named by **coffee_machine** (super class). Used arrays to store coffee types, prices, origin country, and availability. Created sub classes **c_menu** and **userChoice**. **c_menu** is used to display coffee type, origin country and its price respectively. **userChoice** is used to get user input as customer or operator. In here used function called choice and if, elif and else used to add new coffee type, modify coffee type, update coffee availability, Number of coffees brewed and available and delete coffee type. In other if else is used for customer to get a coffee.

3.

For **choice** function


Start
Are you a Operator / Customer?
You are a Operator.
False
True
1.Cappuccino
2.Espresso
3.Latte
4.Black
Select
1. Add Coffee Type
2. Modify Coffee Details
3. Update Raw Material Stock
4. View Coffee Brewed Status
5. Delete Coffee Type
6. Exit
if
Select 1
True
Enter Coffee Type
Enter Price
False
Select 2
True
Enter the coffee type you want to modify
Enter Price
False
Select 3
True
Enter the coffee type you want to update raw material
Enter the material available
False
Select 4
True
Display brewed coffee & Number of Coffees that available
False
Select 5
True
Enter the coffee type you want to delete
False
Select 6
True
if
Select 1
True
False
Select 2
True
False
Select 3
True
False
Select 4
True
Collect your coffee
End

4.

I used three classes in here which names coffee_Machine, c_menu and userChoice. coffee_Machine is the super classes and c_menu and userChoice are sub classes. c_menu and userChoice are inherited by coffee_Machine.

```
import sys
class coffee_Machine:

    c_No = ["1", "2", "3", "4"]
    c_name = ["Cappuccino", "Espresso", "Latte", "Black"]
    c_Price = [1.20, 1.25, 2.00, 0.90]
    c_Origin = ["Italy", "Italy", "Italy", "Sri Lanka"]
    c_Availability = [6, 5, 18, 0]
    coffeeBrewed = 0
    coffeeBalance = 0
```

```
class c_menu(coffee_Machine):
    def menu(self):
        print(" ")

        print("<--------WELCOME to Coffee Machine--------->")
        print("<--------(MENU) --------->")
        i = 0
        while i < len(coffee_Machine.c_name):
            print(i + 1, coffee_Machine.c_name[i], coffee_Machine.c_Origin[i],"£{:.2f}".format(coffee_Machine.c_Price[i]))
            i = i + 1
        print(" ")


class userChoice(c_menu):
    def choice(self):
        userInput = input("Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] : ")
        if userInput == "1":
            print(
                "1. Add Coffee Type\n"
                "2. Modify Coffee Details\n"
                "3. Update Raw Material Stock\n"
                "4. View Coffee  Brewed Status\n"
                "5. Delete Coffee Type\n"
                "6. Exit")

            operator = input("What do you want to do? :")
            if operator == "1":
```

I used 2 functions here which names menu and choice.

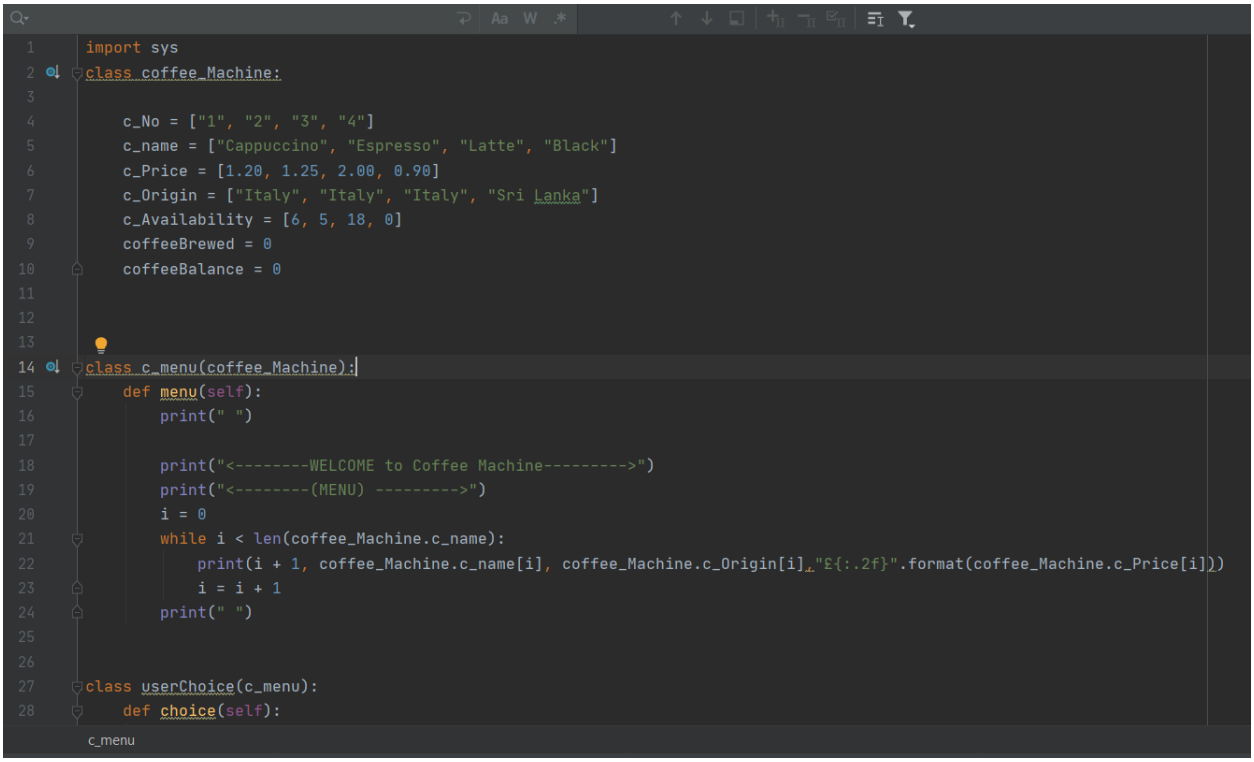
```
def menu(self):
```

This function is used to display coffee types with its name, Origin country and price. In here I used while loop also. From this loop I could display all details in one line respectively.

```
def choice(self):
```

This function is used to choice operator or customer part in this machine. In here I used if else statement with nested if else statement.

5.



```
import sys
class coffee_Machine:

    c_No = ["1", "2", "3", "4"]
    c_name = ["Cappuccino", "Espresso", "Latte", "Black"]
    c_Price = [1.20, 1.25, 2.00, 0.90]
    c_Origin = ["Italy", "Italy", "Italy", "Sri Lanka"]
    c_Availability = [6, 5, 18, 0]
    coffeeBrewed = 0
    coffeeBalance = 0


class c_menu(coffee_Machine):
    def menu(self):
        print(" ")

        print("<--------WELCOME to Coffee Machine--------->")
        print("<--------(MENU) --------->")
        i = 0
        while i < len(coffee_Machine.c_name):
            print(i + 1, coffee_Machine.c_name[i], coffee_Machine.c_Origin[i],"£{:.2f}".format(coffee_Machine.c_Price[i]))
            i = i + 1
        print(" ")


class userChoice(c_menu):
    def choice(self):
```

c_menu

```
class userChoice(c_menu):
    def choice(self):
        userInput = input("Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] : ")
        if userInput == "1":
            print(
                "1. Add Coffee Type\n"
                "2. Modify Coffee Details\n"
                "3. Update Raw Material Stock\n"
                "4. View Coffee  Brewed Status\n"
                "5. Delete Coffee Type\n"
                "6. Exit")

            operator = input("What do you want to do? :")
            if operator == "1":
                name = input("Enter new coffee type :")
                price = float(input("Enter new coffee price :"))
                availability = int(input("Enter the coffee available stock :"))
                origin = input("Enter the coffee origin country :")
                coffee_Machine.c_name.append(name)
                coffee_Machine.c_Price.append(price)
                coffee_Machine.c_Availability.append(availability)
                coffee_Machine.c_Origin.append(origin)
                print("Successfully added the Coffee Type..")

            elif operator == "2":
                i = 0
                while i < len(coffee_Machine.c_name):
```

```
            elif operator == "2":
                i = 0
                while i < len(coffee_Machine.c_name):
                    print(i + 1, coffee_Machine.c_name[i])
                    i = i + 1
                    us_i = int(input("Which coffee you need to modify : "))
                    price = float(input("Enter the new coffee price :"))
                    coffee_Machine.c_Price[us_i - 1] = price
                    print("Coffee Details updated successfully..")

            elif operator == "3":
                i = 0
                while i < len(coffee_Machine.c_name):
                    print(i + 1, coffee_Machine.c_name[i])
                    i = i + 1
                    us_i = int(input("Which coffee's availability you need to update :"))
                    availability = int(input("Enter the new availability stock :"))
                    coffee_Machine.c_Availability[us_i - 1] = availability
                    print("Updated coffee availability..")

            elif operator == "4":
                coffee_Machine.coffeeBalance = sum(coffee_Machine.c_Availability)
                print("\nNumber of Coffees brewed till now : ", coffee_Machine.coffeeBrewed)
                print("]\nNumber of Coffees that available : ", coffee_Machine.coffeeBalance)

            elif operator == "5":
                i = 0
                while i < len(coffee_Machine.c_name):
```

```
            elif operator == "5":
                i = 0
                while i < len(coffee_Machine.c_name):
                    print(i + 1, coffee_Machine.c_name[i])
                    i = i + 1
                    code = int(input("Select the coffee type to be deleted"))
                    coffee_Machine.c_name.pop(code - 1)
                    coffee_Machine.c_Price.pop(code - 1)
                    coffee_Machine.c_Availability.pop(code - 1)
                    coffee_Machine.c_Origin.pop(code - 1)
                    print("Coffee Details Deleted successfully!!!")

            elif operator == "6":
                sys.exit()

        elif userInput == "2":
            served = 0
            while served == 0:
                choice = int(input("1.Cappuccino\t2.Espresso\t3.Latte\t4.Black\n"
                                   "Which coffee you would like to have : "))
                if coffee_Machine.c_Availability[choice - 1] > 0:
                    coffee_Machine.coffeeBrewed = coffee_Machine.coffeeBrewed + 1
                    print("\n\nCollect & Enjoy Your Coffee..")
                    coffee_Machine.c_Availability[choice - 1] = coffee_Machine.c_Availability[choice - 1] - 1
                    served = 1
                else:
```

```
                    coffee_Machine.coffeeBrewed = coffee_Machine.coffeeBrewed + 1
                    print("\n\nCollect & Enjoy Your Coffee..")
                    coffee_Machine.c_Availability[choice - 1] = coffee_Machine.c_Availability[choice - 1] - 1
                    served = 1
                else:
                    print("\nSelected Coffee is Out of Stock.Please try another.. ")


        else:
            print("Invalid input..")


vm = coffee_Machine()
c1 = c_menu()
u1 = userChoice()
while 1:

    userInput1 = input("\n\nWant to On this Coffee Machine?\nPress Y to continue\t:")
    if userInput1 == "Y":
        c1.menu()
        u1.choice()
    else:
        print("Invalid Choice.............")
```

Compile and run the code. No error.

## Tests

Add a coffee type: it is working.

```
C:\Users\ASUS\AppData\Local\Programs\Python\Python38\python.exe C:/Users/ASUS/PycharmProjects/python3/mycoffeemachine.py


Want to On this Coffee Machine?
Press Y to continue :Y

<--------WELCOME to Coffee Machine--------->
<--------(MENU) --------->
1 Cappuccino Italy £1.20
2 Espresso Italy £1.25
3 Latte Italy £2.00
4 Black Sri Lanka £0.90

Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] : 1
1. Add Coffee Type
2. Modify Coffee Details
3. Update Raw Material Stock
4. View Coffee  Brewed Status
5. Delete Coffee Type
6. Exit
What do you want to do? :
```

```
5. Delete Coffee Type
6. Exit
What do you want to do? :1
Enter new coffee type :Latte
Enter new coffee price :1.98
Enter the coffee available stock :20
Enter the coffee origin country :Arabic
Successfully added the Coffee Type..


Want to On this Coffee Machine?
Press Y to continue :Y

<--------WELCOME to Coffee Machine--------->
<--------(MENU) --------->
1 Cappuccino Italy £1.20
2 Espresso Italy £1.25
3 Latte Italy £2.00
4 Black Sri Lanka £0.90
5 Latte Arabic £1.98

Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] :
```

Customer requirement: It is working.

```
C:\Users\ASUS\AppData\Local\Programs\Python\Python38\python.exe C:/Users/ASUS/PycharmProjects/python3/mycoffeemachine.py


Want to On this Coffee Machine?
Press Y to continue :Y

<--------WELCOME to Coffee Machine--------->
<--------(MENU) --------->
1 Cappuccino Italy £1.20
2 Espresso Italy £1.25
3 Latte Italy £2.00
4 Black Sri Lanka £0.90

Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] : 2
1.Cappuccino    2.Espresso  3.Latte 4.Black
Which coffee you would like to have : 2


Collect & Enjoy Your Coffee..


Want to On this Coffee Machine?
Press Y to continue :
```

Exit from the system: It is working.

```
Want to On this Coffee Machine?
Press Y to continue :Y

<--------WELCOME to Coffee Machine--------->
<--------(MENU) --------->
1 Cappuccino Italy £1.20
2 Espresso Italy £1.25
3 Latte Italy £2.00
4 Black Sri Lanka £0.90

Operator or Customer? [1 --> OPERATOR] | [2 --> CUSTOMER] : 1
1. Add Coffee Type
2. Modify Coffee Details
3. Update Raw Material Stock
4. View Coffee  Brewed Status
5. Delete Coffee Type
6. Exit
What do you want to do? :6

Process finished with exit code 0
```

7. Conclusion

While making of this “Coffee machine” I learnt many things about python programming. It is very important to me in future. Some important things that I learned in this projects are how to develop good looking, understandable and readable code.