# ITW1

# PYTHON ENDSEM ASSIGNMENT

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Date: July 12, 2021

**1.**

**(a)**

**We have to train a classifier to distinguish between different types of fruits using K - Nearest Neighbour and Logistic Regression (use link https://scikit-learn.org/stable/ ).**

**(b)**

**Present in both of them which algorithm works better.**

**(c)**

**Visualize the training data and classified data using matplotlib**

**Solution: -**

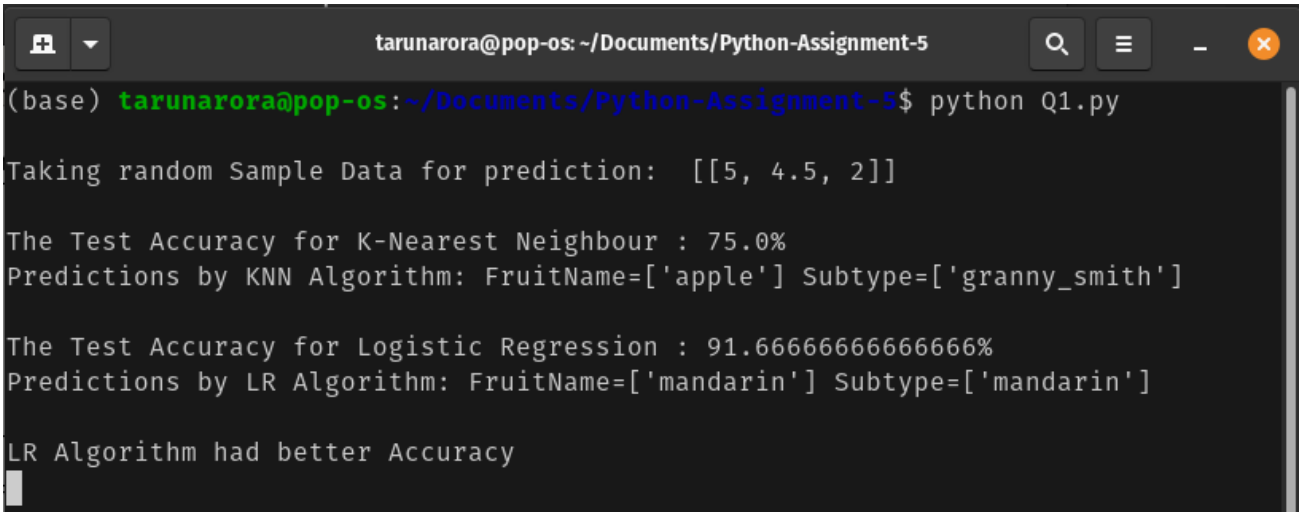


Figure 1
Fruit Distribution in Training Dataset
Apple
Orange
Lemon
Mandarin
Frequency
Fruits
Fruit Distribution according to Widht and Height
Height
Width
apple
lemon
mandarin
orange
Predictions by K-Nearest Neighbour Algorithm
Correct Prediction
Wrong Prediction
Height
Width
Predictions by Logistic Regression Algorithm
Correct Prediction
Wrong Prediction
Height
Width

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**2.**

**(a)We have to predict whether the patient has diabetes or not based on various features given in the dataset.**

**(b) Visualize the training data and classified data using matplotlib.**

**Solution: -**

```
tarunarora@pop-os: ~/Documents/Python-Assignment-5
(base) tarunarora@pop-os:~/Documents/Python-Assignment-5$ python Q2.py

The Test Accuracy for K-Nearest Neighbour : 70.12987012987013%

Taking random Sample Data for prediction:  [[5, 132, 80, 0, 0, 26.8, 0.186, 42]]

Predictions: Not Diabetic
```


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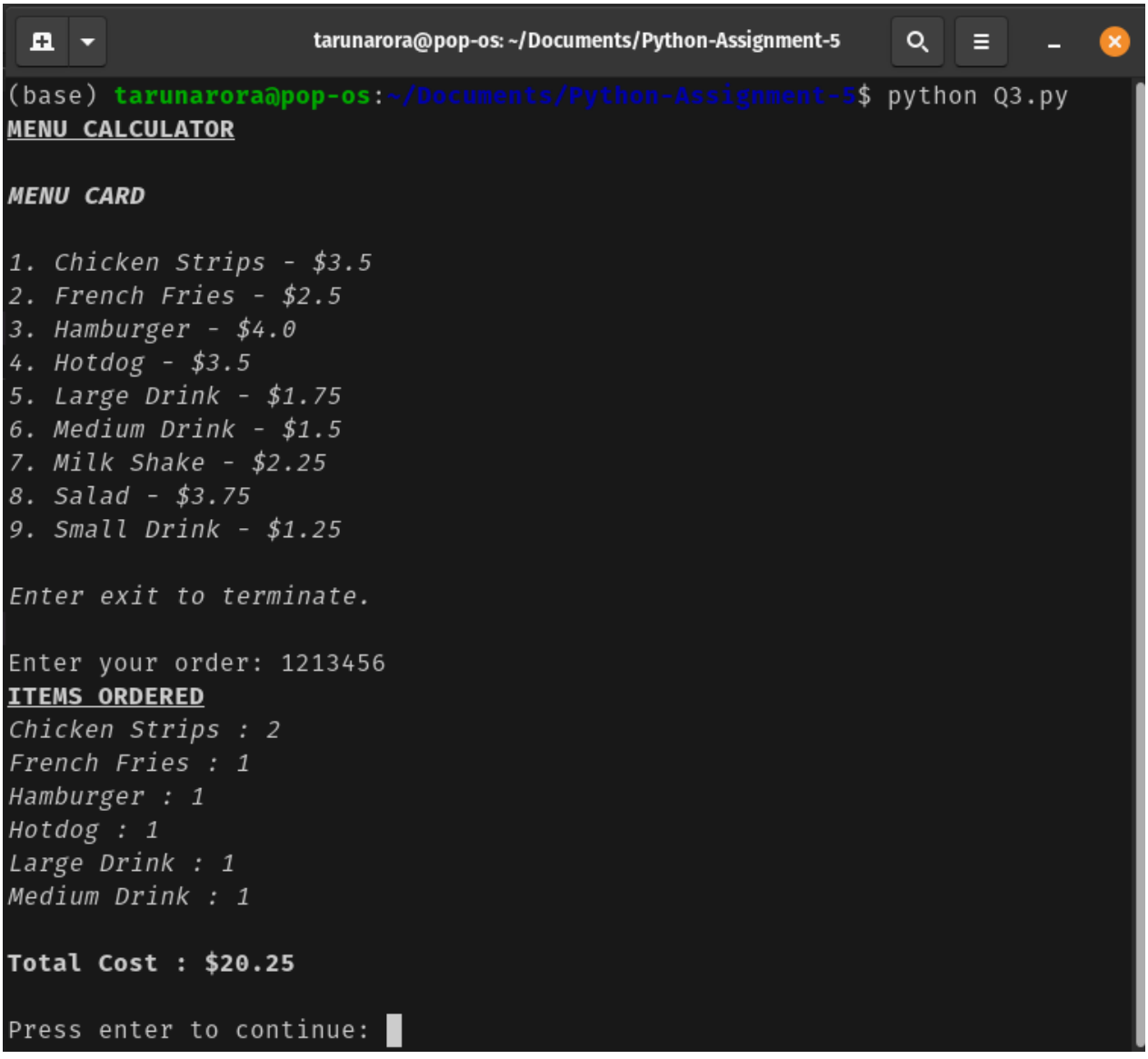
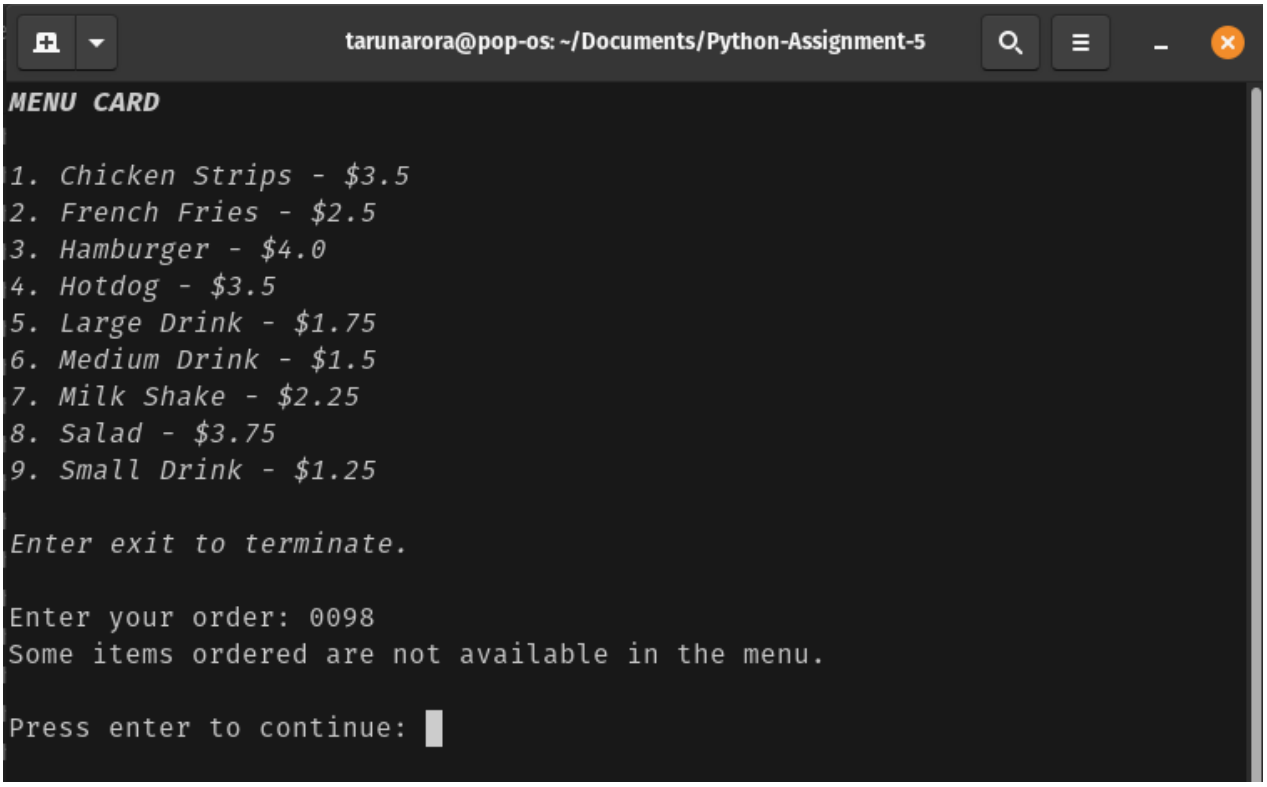
## 3. Menu Calculator (Use Basic Python)

**Solution**: -



**Error Checking: -**

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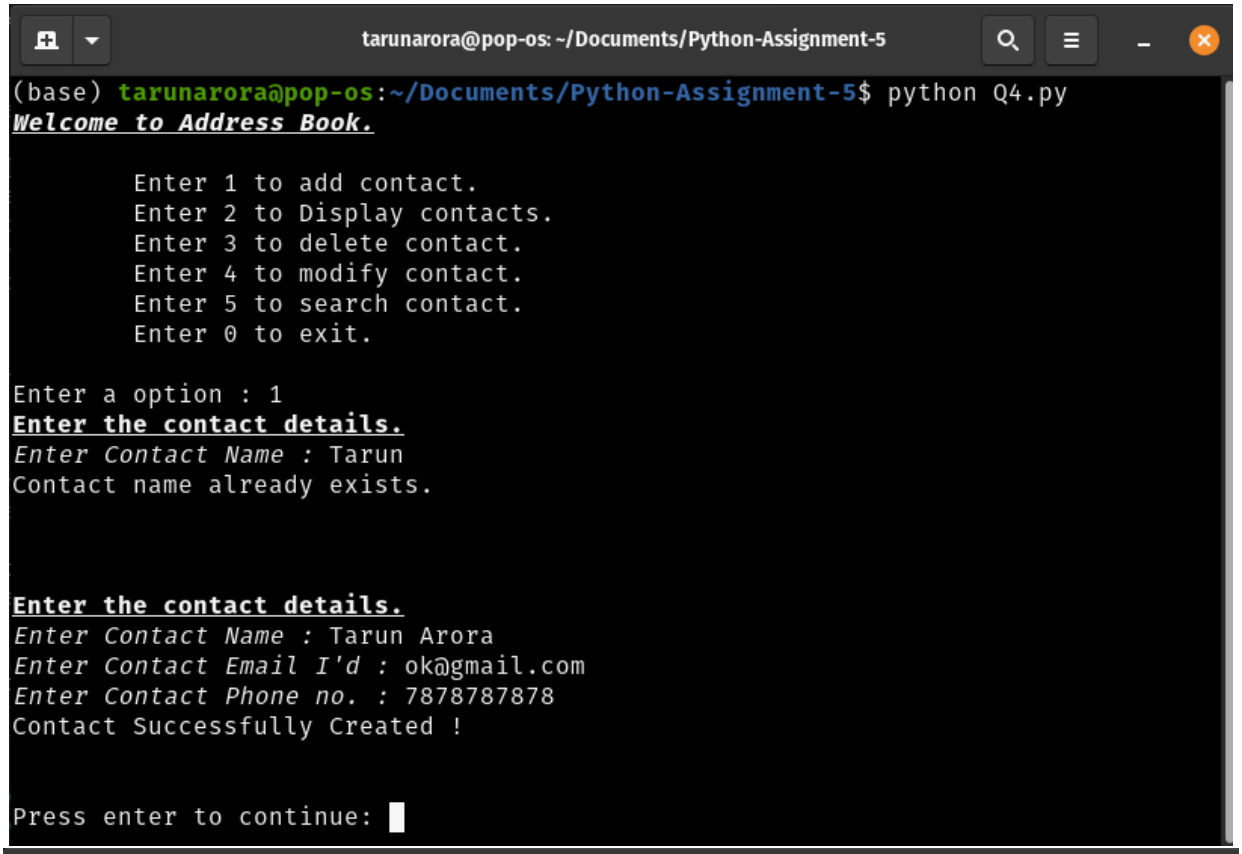
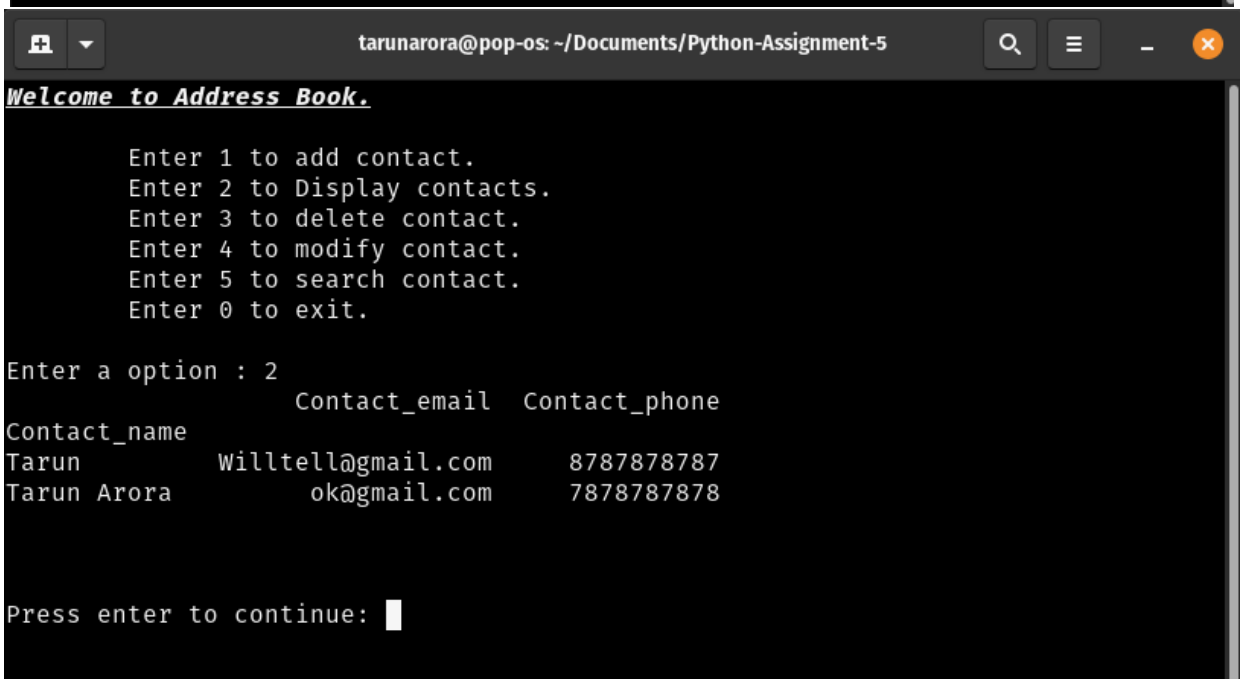
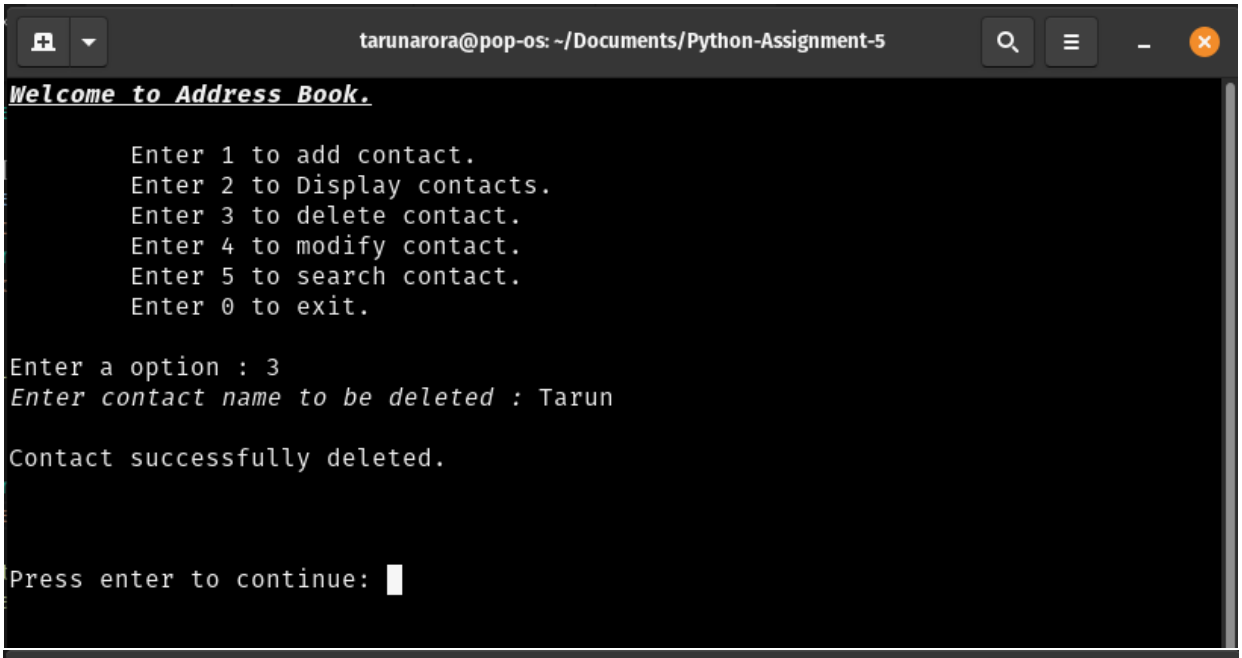
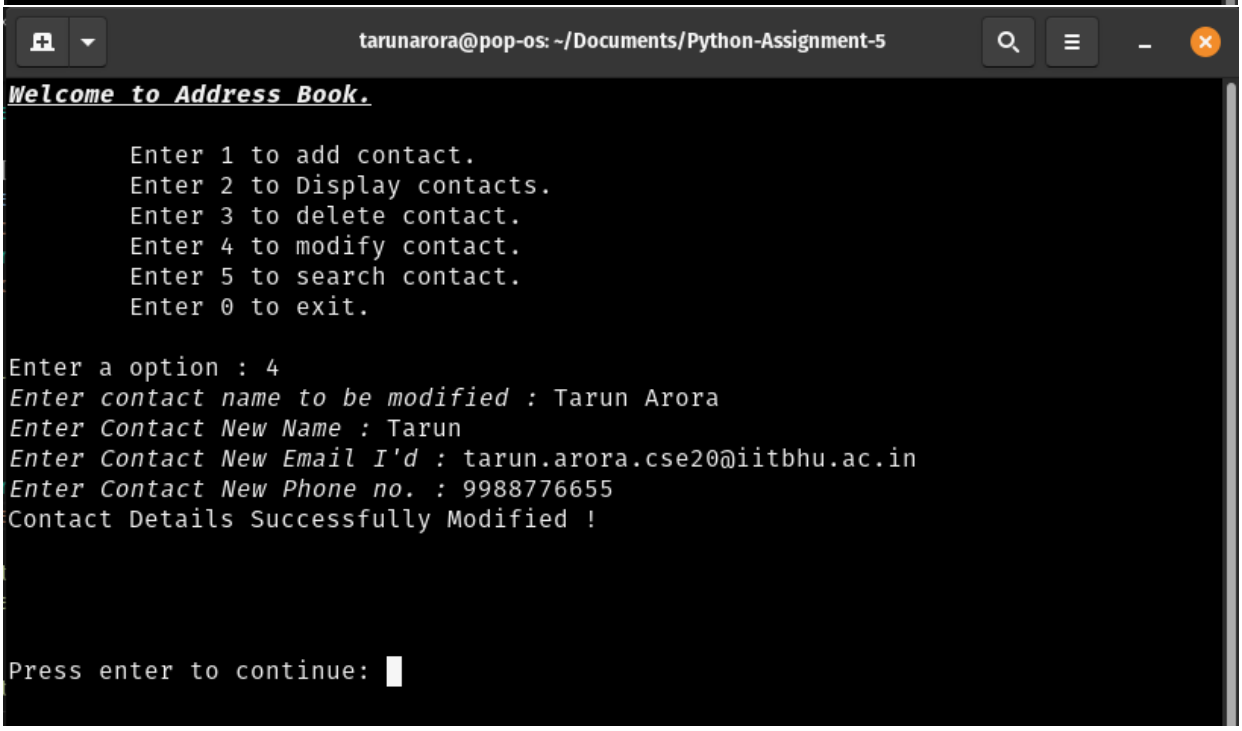
**4. Create a small address book (Use Basic Python)**

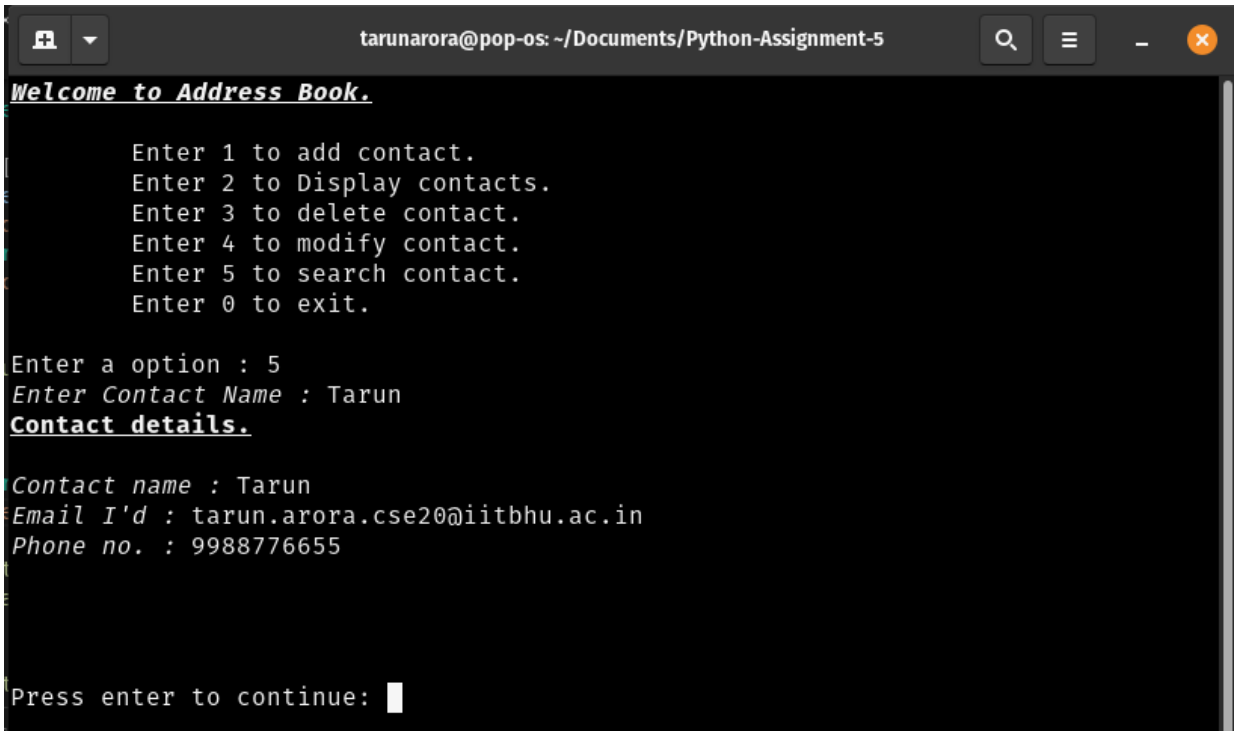
**Solution: -**




tarunarora@pop-os: ~/Documents/Python-Assignment-5
Welcome to Address Book.
Enter 1 to add contact.
Enter 2 to Display contacts.
Enter 3 to delete contact.
Enter 4 to modify contact.
Enter 5 to search contact.
Enter 0 to exit.
Enter a option : 3
Enter contact name to be deleted : Tarun
Contact successfully deleted.
Press enter to continue:


tarunarora@pop-os: ~/Documents/Python-Assignment-5
Welcome to Address Book.
Enter 1 to add contact.
Enter 2 to Display contacts.
Enter 3 to delete contact.
Enter 4 to modify contact.
Enter 5 to search contact.
Enter 0 to exit.
Enter a option : 4
Enter contact name to be modified : Tarun Arora
Enter Contact New Name : Tarun
Enter Contact New Email I'd : tarun.arora.cse20@iitbhu.ac.in
Enter Contact New Phone no. : 9988776655
Contact Details Successfully Modified !
Press enter to continue:


tarunarora@pop-os: ~/Documents/Python-Assignment-5
Welcome to Address Book.
Enter 1 to add contact.
Enter 2 to Display contacts.
Enter 3 to delete contact.
Enter 4 to modify contact.
Enter 5 to search contact.
Enter 0 to exit.
Enter a option : 5
Enter Contact Name : Tarun
Contact details.
Contact name : Tarun
Email I'd : tarun.arora.cse20@iitbhu.ac.in
Phone no. : 9988776655
Press enter to continue:

********** EOF **********