COMPUTER SCIENCE (083)

PRACTICAL FILE

SESSION:2020-2021

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CLASS: XII

SECTION: E

SCHOOL: DPS Indirapuram

BOARD ROLL NO:

INDEX

	• A user defined function LIGHT() that accepts a string as input and returns 0 when the input is RED, 1 when the input is YELLOW and 2 when the input is GREEN. The input should be passed as an argument. Display "SPEED THRILLS BUT KILLS" after the function trafficLight() is executed.		
4.	To secure your account, whether it be an email, online bank account or any other account, it is important that we use authentication. Use your programming expertise to create a program using user defined function named login that accepts userid and password as parameters (login(uid,pwd)) that displays a message "account blocked" in case of three wrong attempts. The login is successful if the user enters user ID as "ADMIN" and password as "St0rE@1". On successful login, display a message, "Login Successful"	16	
PROGRAMS BASED ON STRINGS/LISTS/TUPLES/DICTIONARY			
5.	Write a program to convert a given number into equivalent Roman number (store its value as a string). You can use following guidelines to develop solution for it: From the given number, pick successive digits, using %10 and /10 to gather the digits from right to left. The rules for Roman Numerals involve using four pairs of symbols for ones and fives, tens and fifties, hundreds and five hundreds. An additional symbol for thousands covers all the relevant bases. When a number is followed by the same or smaller number, it means addition. "II" is two 1's =2. "VI" is 5+1=6. When one number is followed by a large number, it means subtraction. "IX" is 1 before 10=9. "IIX" isn't allowed, this would be "VIII". For numbers from 1 to 9, the symbols are "I" and "V", and the coding works like this. "I", "II", "III", "IV", "V", "VI", "VII", "VIII", "IX". The same rules work for numbers from 10 to 99, using "X" and "L". For numbers from 100 to 900, using the symbols "C" and "D". For numbers from 1000 to 4000, using "M". Here are some examples. 1994=MCMXCIV, 1956=MCMLVI, 3888=MMMDCCCLXXXVIII	18	
6.	ROT13 is a weak form of encryption that involves "rotating" each letter in a word by 13 places. To rotate a	20	

	letter means to shift it through the alphabet, wrapping around to the beginning if necessary, so 'A' shifted by 3 is 'D' and 'Z' shifted by 1 is 'A'. Write a function called rotate_word that takes a string and an integer as parameters, and that returns a new string that contains the letters from the original string "rotated" by the given amount. For example, "cheer" rotated by 7 is "jolly" and "melon" rotated by -10 is "cubed". You might want to use the built-in functions ord, which converts a character to a numeric code, and chr, which converts numeric codes to characters.		
7.	This question is based on a Puzzler that was broadcast on the radio program Car Talk. Give me a word with three consecutive double letters. I'll give you a couple of words that almost qualify, but don't. For example, the word committee, c-o-m-m-i-t-t-e-e. It would be great except for the 'i' that sneaks in there. Or Mississippi: M-i-s-s-i-s-s-ip- p-i. If you could take out those i's it would work. But there is a word that has three consecutive pairs of letters and to the best of my knowledge this may be the only word. Of course there are probably 500 more but I can only think of one. What is the word? Write a program to find it/them out of the given string.	22	
8.	Two words are anagrams if you can rearrange the letters from one to spell the other. Write a function called is_anagram that takes two strings and returns True if they are anagrams.	24	
9.	Complete the following function that determines if the number of even and odd values in an integer list is the same. The function would return true if the list contains 5, 1, 0, 2 (two evens and two odds), but it would return false for the list containing 5, 1, 0, 2, 11 (too many odds). The function should return true if the list is empty, since an empty list contains the same number of evens and odds (0 for both). The function does not affect the contents of the list. **def balanced(a):** **# Add your code...**	26	
10.	Write a program that takes a list of words and creates a dictionary with frequency (number of occurences) of word as key and list of words for that frequency as value. For example, if list is given as ['the','of', 'an', 'is', 'an', 'the']	28	

	Then dictionary should be {2:[‘the’,’an’],1:[‘of’,’is’]}		
11.	Write a program to find the frequency of values in the given dictionary. For example, if the dictionary is given as D={‘P1’:60,’P2’:30,’P3’:50,’P4’:60,’P5’:30,’P6’:10} Then output should be {10:1,30:2,50:1,60:2}	30	
PROGRAMS BASED ON SORTING (BUBBLE AND INSERTION)			
12.	Write a program to input the roll numbers, names, and marks of n students of a class in a list, sort the data in descending order of their marks using bubble sort and then display the sorted details of all the students. Expected output: Enter the number of students: 3 Now enter students data one by one: Students number 1 : Roll number: 1 Name: aaa Marks: 85 Students number 2 : Roll number: 3 Name: bbb Marks: 75 Students number 3 : Roll number: 3 Name: ccc Marks: 95 Details of students in descending order of their mar {'rno': 3, 'name': 'ccc', 'marks': 95.0} {'rno': 1, 'name': 'aaa', 'marks': 85.0} {'rno': 3, 'name': 'bbb', 'marks': 75.0}	32	
13.	Write a program to input the roll numbers, names, and marks of n students of a class in a list, sort the data in alphabetical order of their names using insertion sort and then display the sorted details of all the students. Expected output:: Enter the number of students: 3 Now enter students data one by one: Students number 1 : Roll number: 1 Name: pallavi Marks: 80 Students number 2 : Roll number: 2	34	

	Name: raghav Marks: 90 Students number 3 : Roll number: 3 Name: anushka Marks: 75 Details of students in descending order of their mar {'rno': 3, 'name': 'anushka', 'marks': 75.0} {'rno': 1, 'name': 'pallavi', 'marks': 80.0} {'rno': 2, 'name': 'raghav', 'marks': 90.0}		
PROGRAMS BASED ON TEXT FILES			
14.	Write a menu driven program to • to display last three characters of all the lines available in the text File 'abcd.txt' • to display the content of a text file 'abcd.txt' file in uppercase. • to find and display the count of all the uppercase characters available in text file 'abcd.txt' to count and display total number of vowels available in a text File 'abcd.txt'	36	
15.	Write a menu driven program to • to read the content of a text file 'abcd.txt' file and copy the same content in another file 'Copy.txt' file • to read a word from keyboard and find out the frequency of this word in a text file 'abcd.txt' • To read a text file 'abcd.txt' and copy all those lines that start with 'the' into another text file 'copy.txt' • to read the text file 'abcd.txt' and replace the word 'This' with 'That' in this file. • to read the text file 'abcd.txt' and display the content after removing the word 'This' from the file	39	
PROGRAMS BASED ON BINARY FILES			
16.	Following is the structure of each record in a data file named "PRODUCT.DAT". **{"prod_code":value, "prod_desc":value, "stock":value}** The values for prod_code and prod_desc are strings, and the value for stock is an integer. Write a menu driven program using functions • to enter records • to display all records	43	

<table>
<tr><td></td><td>to update the file with a new value of stock. The stock and the product_code, whose stock is to be updated, are to be input during the execution of the function.</td><td></td><td></td></tr>
<tr><td>17.</td><td>Given a binary file “STUQ2.DAT”, containing records of the following type:
[S_Admno, S_Name, Percentage]
Where these three values are:
S_Admno – Admission Number of student (string)
S_Name – Name of student (string)
Percentage – Marks percentage of student (float)
Write a menu driven program using functions
to enter records
to display all records
to read contents of the file “STUDENT.DAT” and display the details of those students whose percentage is above 75.</td><td>46</td><td></td></tr>
<tr><td>18.</td><td>Assuming the tuple Vehicle as follows:
(vehicletype, no_of_wheels)
where vehicletype is a string and no_of_wheels is an integer.
Write a menu driven program using functions
to enter records
to display all records
to count and display the number of records present in the file.</td><td>49</td><td></td></tr>
<tr><td colspan="4">PROGRAMS BASED ON CSV FILES</td></tr>
<tr><td>19.</td><td>Create a file PRODUCT.CSV. Sample data of the file is as follows:

PID, PNAME, COST, QUANTITY
P1, BRUSH, 50, 200
P2, TOOTHPASTE, 120, 150
P3, COMB, 40, 300
P4, SHEETS, 100, 500
P5, PEN, 10, 250

Write a menu driven program using functions
to add sample data to the file
to display all the records
to copy/transfer only those records from the file PRODUCT.CSV to another file “PRO1.CSV” whose quantity is more than 150. Also include the first row with headings.</td><td>52</td><td></td></tr>
</table>

<table>
<tr><td></td><td>To display the total cost of all the products of the file PRODUCT.CSV
To search and display the record of that product from the file product.csv which has maximum cost.</td><td></td><td></td></tr>
<tr><td>20.</td><td>Create a file Tour.csv having headings as follows TID,DESTINATION,DAYS,FARE. Sample data of file is follows:
TI0, AUSTRALIA, 10,300
T11, AUSTRIA, 15, 750
T12, RAJASTHAN, 10, 700
T13, FRANCE, 12, 650
Write a menu driven program using functions
to add sample data to the file
to display all the records
to read the file tour.csv and display the records where fare is between 500 and 750. If no such record is found in the file then display an appropriate message on the screen.</td><td>56</td><td></td></tr>
<tr><td colspan="4">PROGRAMS BASED ON STACK</td></tr>
<tr><td>21.</td><td>Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure. Implement the complete menu driven program</td><td>59</td><td></td></tr>
<tr><td>22.</td><td>Write the functions in Python push (stk, item) and pop(stk) to check whether the stack is empty, to add a new item, to delete an item and display the stack respectively. Implement the menu driven program.</td><td>61</td><td></td></tr>
<tr><td colspan="4">PROGRAMS BASED ON PYTHON MySQL CONNECTIVITY</td></tr>
<tr><td>23.</td><td>Consider the following tables product and client.</td><td>63</td><td></td></tr>
</table>

TABLE:PRODUCT

P_ID	PRODUCTNAME	MANUFACTURER	PRICE
TP01	TALCOM POWDER	LAK	40
FW05	FACE WASH	ABC	45
BS01	BATH SOAP	ABC	55
SH06	SHAMPOO	XYZ	120
FW12	FACE WASH	XYZ	95

TABLE:CLIENT

C_ID	CLIENTNAME	City	P_ID
01	COSMETIC SHOP	Delhi	FW05
06	TOTAL HEALTH	Mumbai	BS01
12	LIVE LIFE	Delhi	SH06
15	PRETTY WOMAN	Delhi	FW12
16	DREAMS	Banglore	TP01

	Develop a complete menu driven application using python mySQL connectivity based on following parameters. Create functions wherever required		
a)	Database name:STORE		
b)	Table names: PRODUCT and CLIENT (as shown above)		
c)	Primary keys: pid, cid		
d)	Write suitable code in python to create database, tables and to insert the records.		
e)	Create a function to display the client name and the product purchased by the client in descending order of client names		
f)	Create a function to increase the price of all the products by 5%. Now display all the records of product table.		
g)	Create a function to remove the records of clients who are from Bangalore. Now display all the records of Client table.		
h)	Create a function to display number of clients from each city.		
i)	Create a function to increase the width of column city to 50.		

Question 1:

Aim:

Write a program to implement a card game called “DRAGONS AND WIZARDS”. Make two teams Dragons and Wizards. The rules of the game are as follows

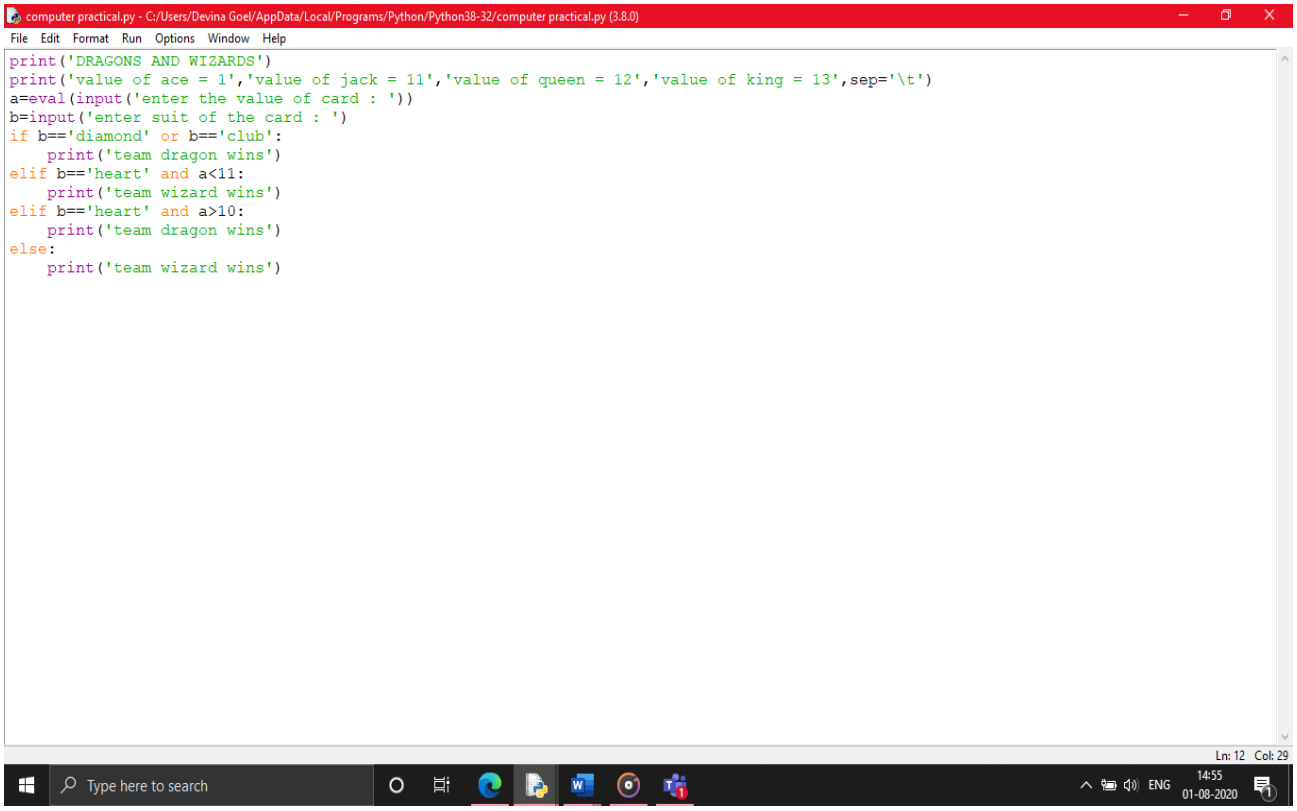
- If the card drawn is a diamond or a club, Team Dragons gets a point.
- If the card drawn is a heart which is a number, team Wizard gets a point
- If the card drawn is a heart that is not a number, team dragon gets a point
- For any other card, team wizard gets a point
- The team with highest point is the winner.

Input: shape, value

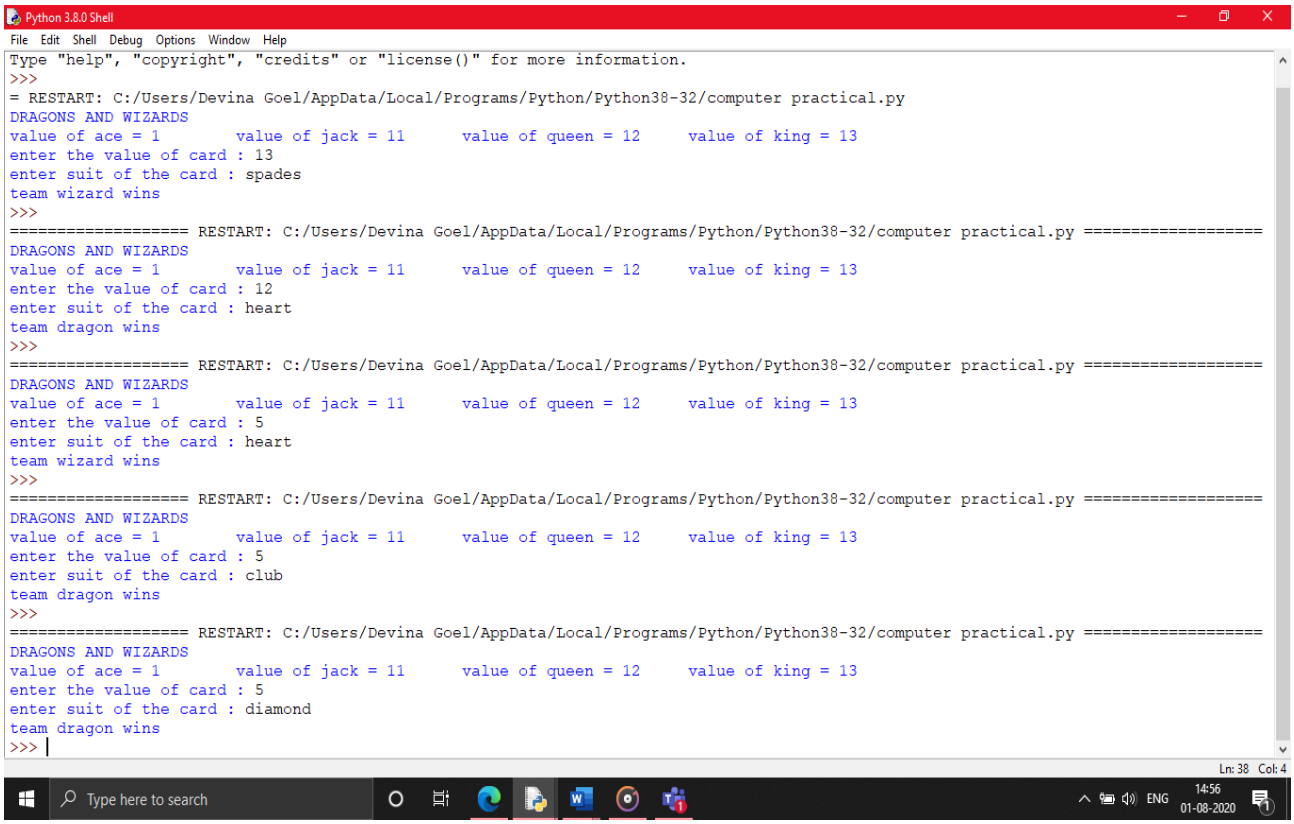
Process: Increment in respective team scores by one based on the outcome of the card drawn, as defined in the rules.

Output: Winning Team

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
print('DRAGONS AND WIZARDS')
print('value of ace = 1','value of jack = 11','value of queen = 12','value of king = 13',sep='\t')
a=eval(input('enter the value of card : '))
b=input('enter suit of the card : ')
if b=='diamond' or b=='club':
print('team dragon wins')
elif b=='heart' and a<11:
print('team wizard wins')
elif b=='heart' and a>10:
print('team dragon wins')
else:
print('team wizard wins')
Ln: 12 Col: 29
Type here to search
ENG
14:55
01-08-2020

Output:

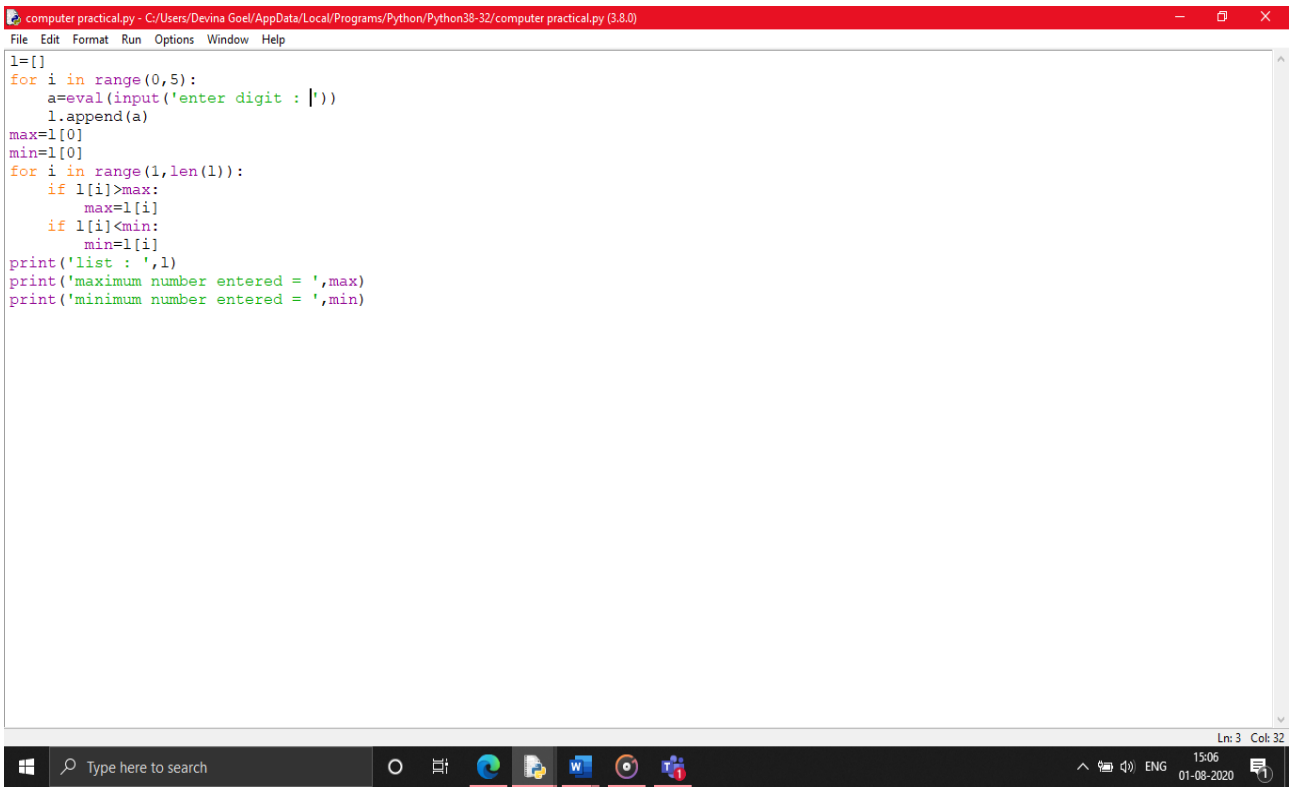

Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
DRAGONS AND WIZARDS
value of ace = 1 value of jack = 11 value of queen = 12 value of king = 13
enter the value of card : 13
enter suit of the card : spades
team wizard wins
>>>
========== RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py ==========
DRAGONS AND WIZARDS
value of ace = 1 value of jack = 11 value of queen = 12 value of king = 13
enter the value of card : 12
enter suit of the card : heart
team dragon wins
>>>
========== RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py ==========
DRAGONS AND WIZARDS
value of ace = 1 value of jack = 11 value of queen = 12 value of king = 13
enter the value of card : 5
enter suit of the card : heart
team wizard wins
>>>
========== RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py ==========
DRAGONS AND WIZARDS
value of ace = 1 value of jack = 11 value of queen = 12 value of king = 13
enter the value of card : 5
enter suit of the card : club
team dragon wins
>>>
========== RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py ==========
DRAGONS AND WIZARDS
value of ace = 1 value of jack = 11 value of queen = 12 value of king = 13
enter the value of card : 5
enter suit of the card : diamond
team dragon wins
>>>
Ln: 38 Col: 4
Type here to search
ENG
14:56
01-08-2020

Question 2:

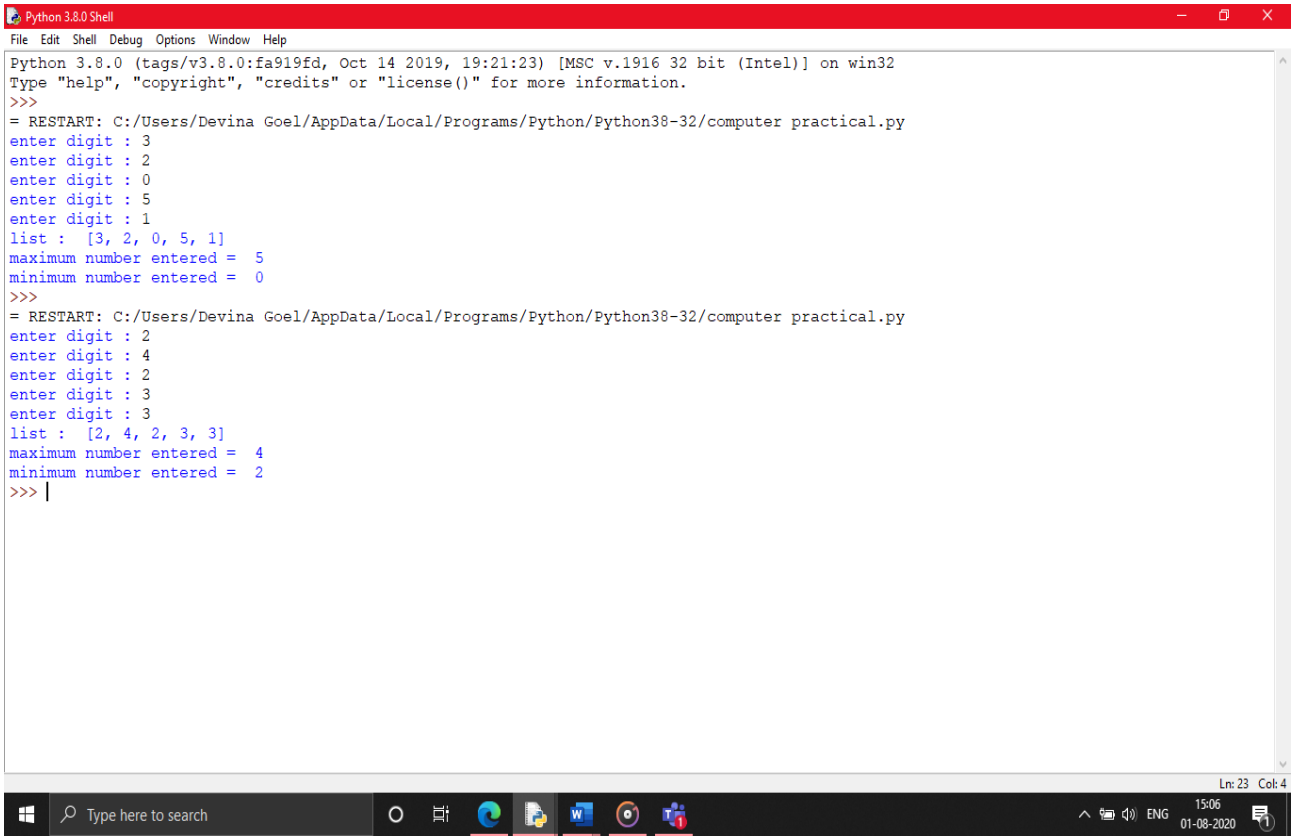
Aim:

Write a Python program that requests five integer values from the user. It then prints the maximum and minimum values entered. If the user enters the values 3, 2, 5, 0, and 1, the program would indicate that 5 is the maximum and 0 is the minimum. Your program should handle ties properly; for example, if the user enters 2, 4, 2, 3, and 3, the program should report 2 as the minimum and 4 as maximum.

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
l=[]
for i in range(0,5):
a=eval(input('enter digit : '))
l.append(a)
max=l[0]
min=l[0]
for i in range(1,len(l)):
if l[i]>max:
max=l[i]
if l[i]<min:
min=l[i]
print('list : ',l)
print('maximum number entered = ',max)
print('minimum number entered = ',min)
Ln: 3 Col: 32
Type here to search
ENG
15:06
01-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter digit : 3
enter digit : 2
enter digit : 0
enter digit : 5
enter digit : 1
list : [3, 2, 0, 5, 1]
maximum number entered = 5
minimum number entered = 0
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter digit : 2
enter digit : 4
enter digit : 2
enter digit : 3
enter digit : 3
list : [2, 4, 2, 3, 3]
maximum number entered = 4
minimum number entered = 2
>>>
Ln: 23 Col: 4
Type here to search
ENG
15:06
01-08-2020

Question 3:

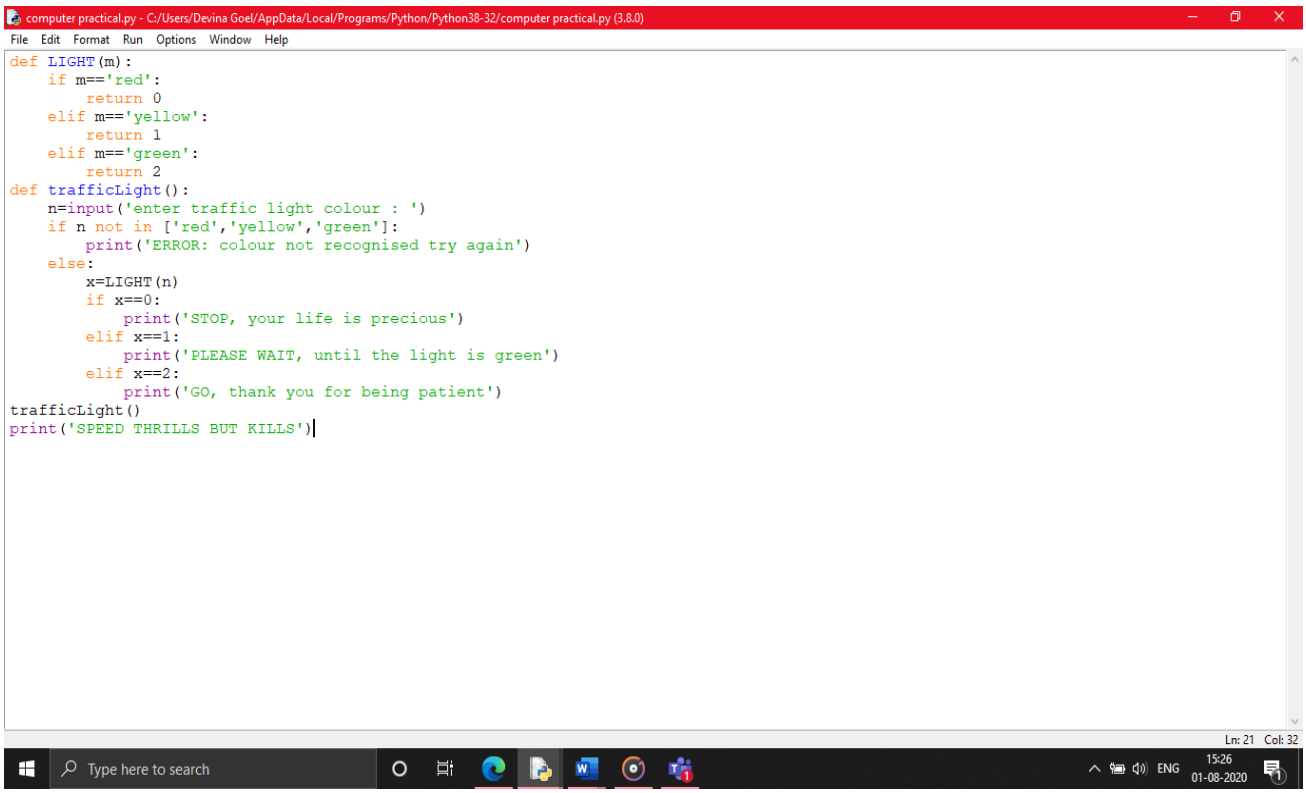
Aim:

Write a program that simulates a traffic light. The program should consist of the following:

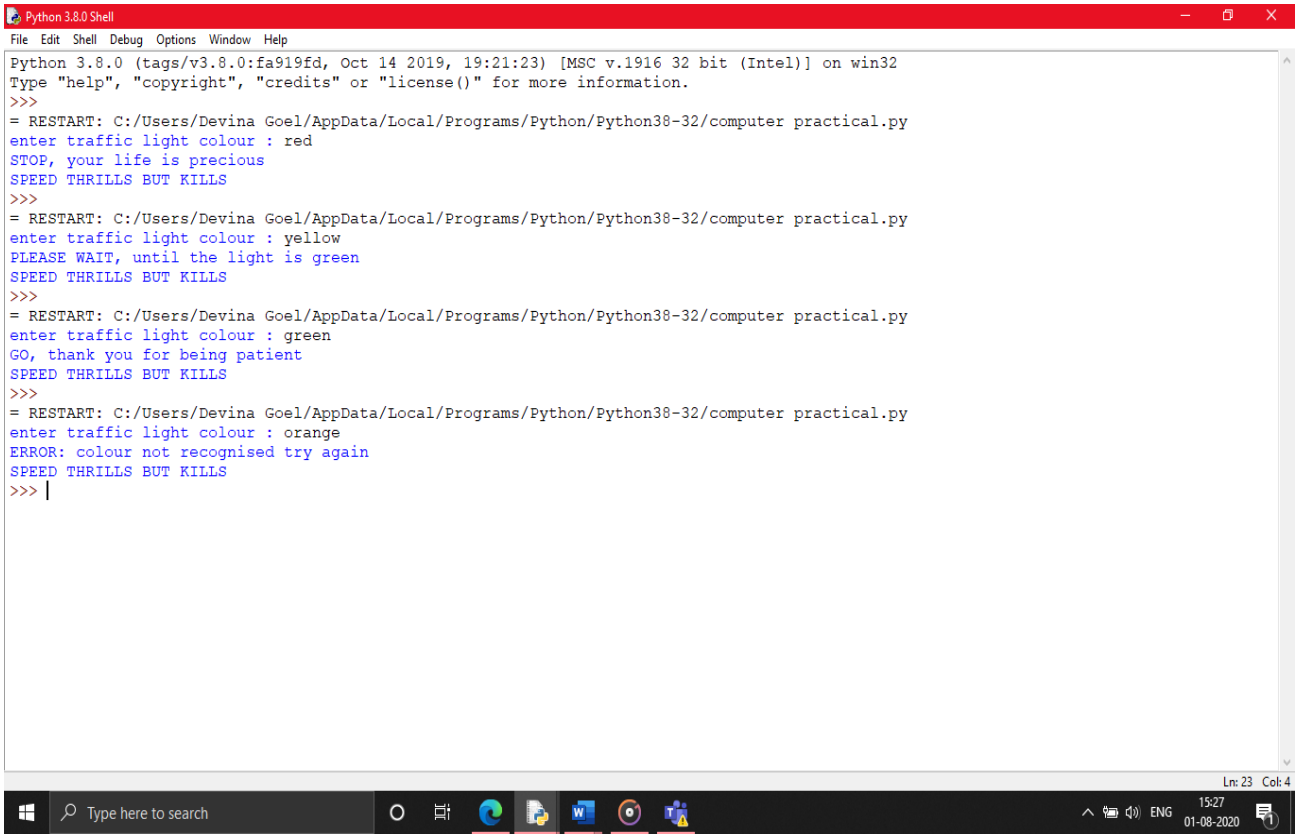
- A user defined function trafficLight() that accepts input from the user and displays an error message if user enters anything other than RED, YELLOW or GREEN. Function LIGHT() is called and following is displayed depending upon return value from LIGHT()
    - "STOP, your life is precious" if the value returned by LIGHT() is 0.
    - "Please WAIT, untill the light is green", if the value returned by LIGHT() is 1
    - "GO! Thankyou for being patient", if the value returned by LIGHT() is 2.
- A user defined function LIGHT() that accepts a string as input and returns 0 when the input is RED, 1 when the input is YELLOW and 2 when the input is GREEN. The input should be passed as an argument.

Display "SPEED THRILLS BUT KILLS" after the function trafficLight() is executed.

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
def LIGHT(m):
if m=='red':
return 0
elif m=='yellow':
return 1
elif m=='green':
return 2
def trafficLight():
n=input('enter traffic light colour : ')
if n not in ['red','yellow','green']:
print('ERROR: colour not recognised try again')
else:
x=LIGHT(n)
if x==0:
print('STOP, your life is precious')
elif x==1:
print('PLEASE WAIT, until the light is green')
elif x==2:
print('GO, thank you for being patient')
trafficLight()
print('SPEED THRILLS BUT KILLS')
Ln: 21 Col: 32
Type here to search
ENG
15:26
01-08-2020

Output:

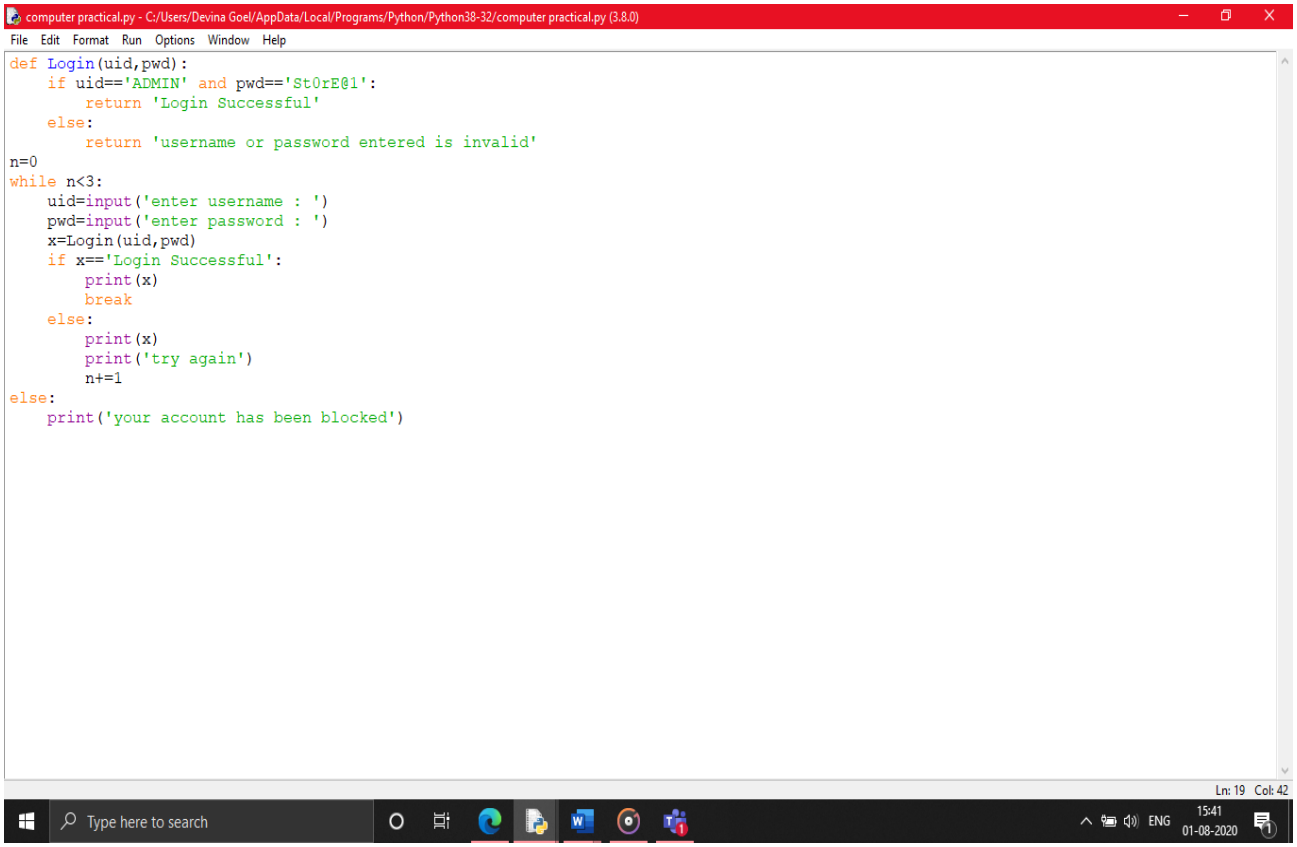

Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter traffic light colour : red
STOP, your life is precious
SPEED THRILLS BUT KILLS
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter traffic light colour : yellow
PLEASE WAIT, until the light is green
SPEED THRILLS BUT KILLS
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter traffic light colour : green
GO, thank you for being patient
SPEED THRILLS BUT KILLS
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter traffic light colour : orange
ERROR: colour not recognised try again
SPEED THRILLS BUT KILLS
>>>
Ln: 23 Col: 4
Type here to search
ENG
15:27
01-08-2020

Question 4:

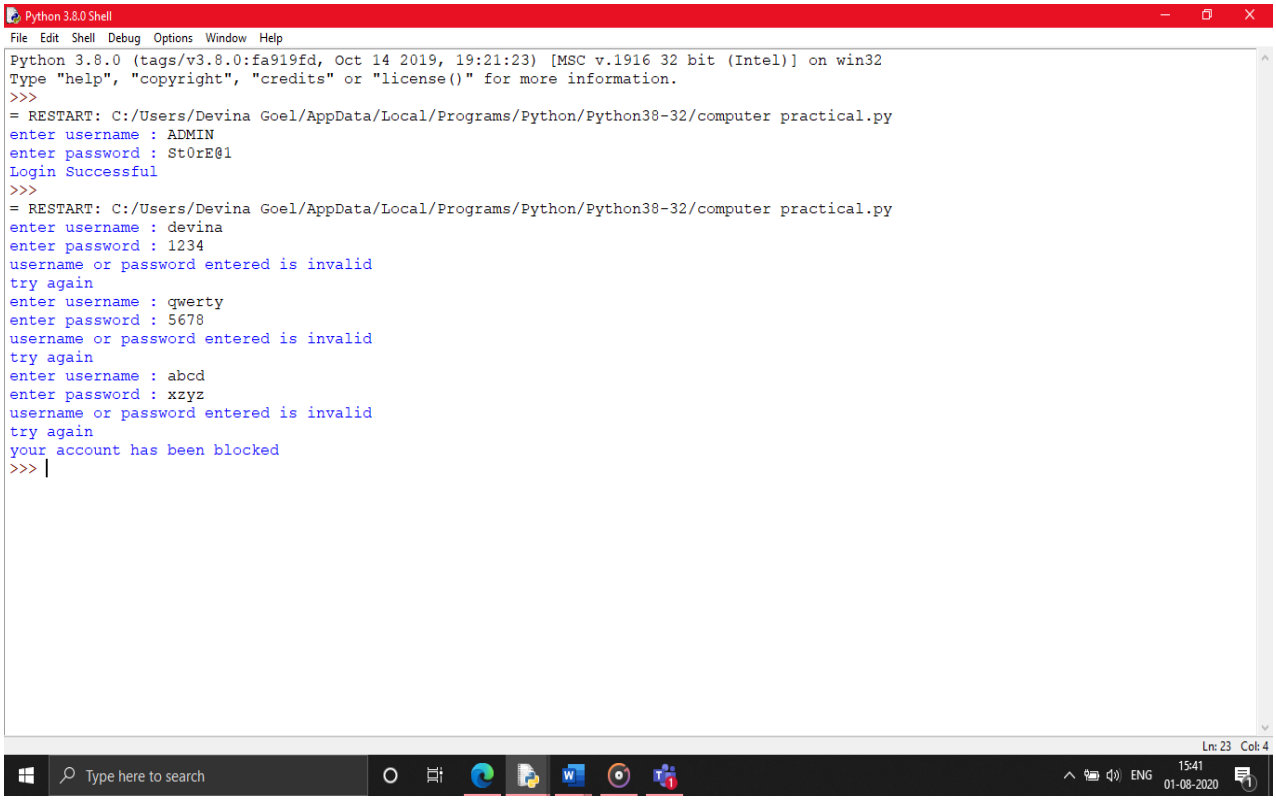
Aim:

To secure your account, whether it be an email, online bank account or any other account, it is important that we use authentication. Use your programming expertise to create a program using user defined function named login that accepts userid and password as parameters (login(uid,pwd)) that displays a message “account blocked” in case of three wrong attempts. The login is successful if the user enters user ID as “ADMIN” and password as “St0rE@1”. On successful login, display a message, “Login Successful”

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
def Login(uid,pwd):
if uid=='ADMIN' and pwd=='St0rE@1':
return 'Login Successful'
else:
return 'username or password entered is invalid'
n=0
while n<3:
uid=input('enter username : ')
pwd=input('enter password : ')
x=Login(uid,pwd)
if x=='Login Successful':
print(x)
break
else:
print(x)
print('try again')
n+=1
else:
print('your account has been blocked')
Ln: 19 Col: 42
Type here to search
ENG
15:41
01-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter username : ADMIN
enter password : St0rE@1
Login Successful
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter username : devina
enter password : 1234
username or password entered is invalid
try again
enter username : qwerty
enter password : 5678
username or password entered is invalid
try again
enter username : abcd
enter password : xzyz
username or password entered is invalid
try again
your account has been blocked
>>>
Ln: 23 Col: 4
Type here to search
ENG
15:41
01-08-2020

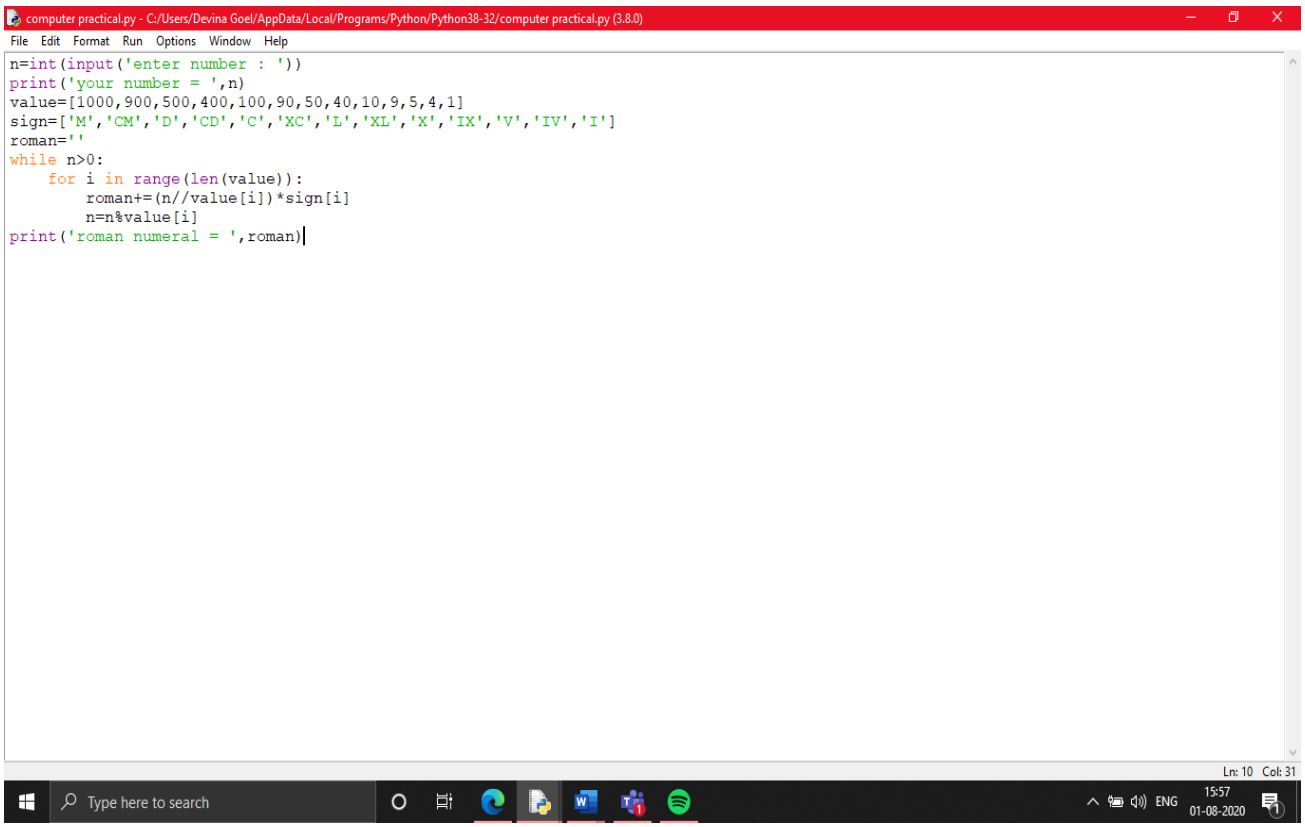
Question 5:

Aim:

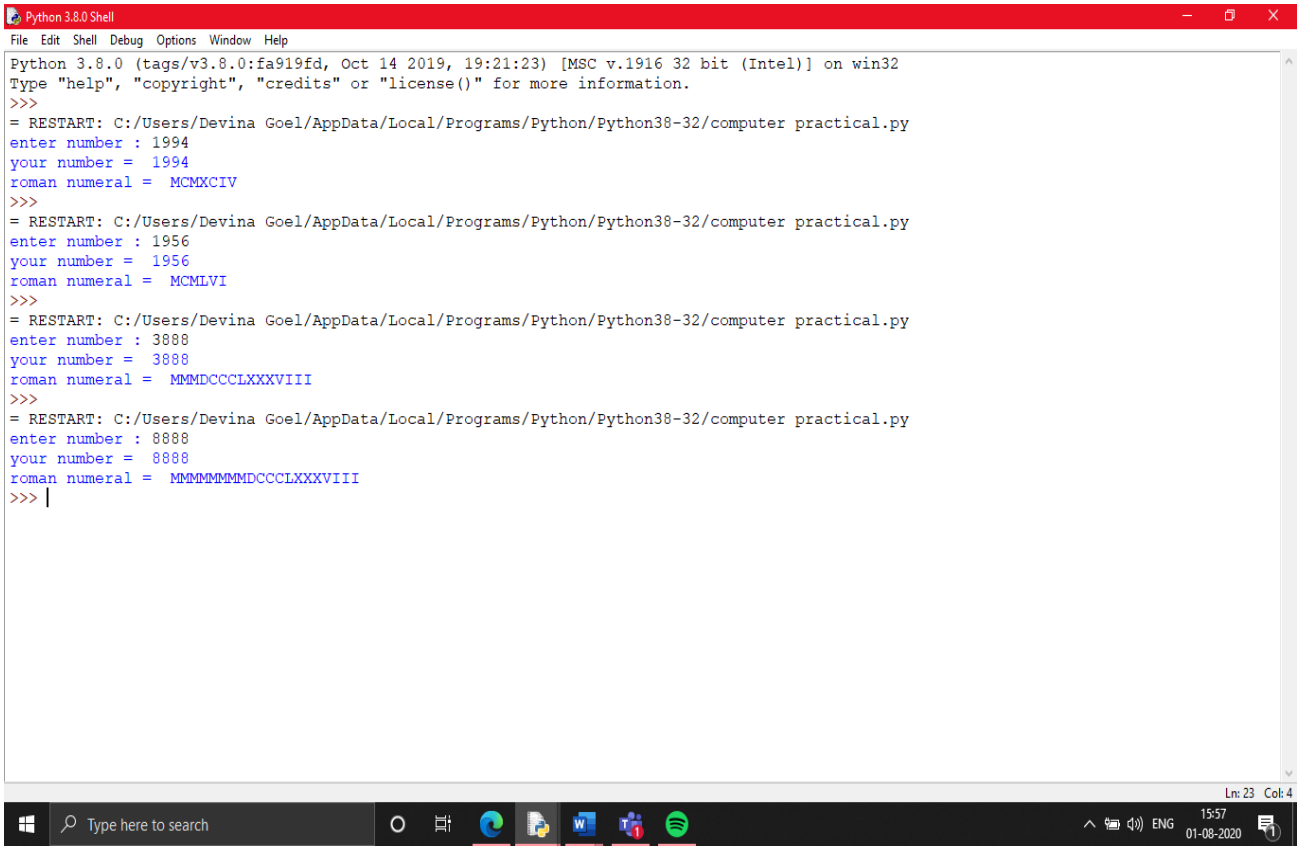
Write a program to convert a given number into equivalent Roman number (store its value as a string). You can use following guidelines to develop solution for it:

- From the given number, pick successive digits, using %10 and /10 to gather the digits from right to left.
- The rules for Roman Numerals involve using four pairs of symbols for ones and fives, tens and fifties, hundreds and five hundreds. An additional symbol for thousands covers all the relevant bases.
- When a number is followed by the same or smaller number, it means addition. “II” is two 1’s =2. “VI” is 5+1=6.
- When one number is followed by a large number, it means subtraction. “IX” is 1 before 10=9. “IIX” isn’t allowed, this would be “VIII”. For numbers from 1 to 9, the symbols are “I” and “V”, and the coding works like this. “I”, “II”, “III”, “IV”, “V”, “VI”, “VII”, “VIII”, “IX”.
- The same rules work for numbers from 10 to 99, using “X” and “L”. For numbers from 100 to 900, using the symbols “C” and “D”. For numbers from 1000 to 4000, using “M”.
  Here are some examples. 1994=MCMXCIV, 1956=MCMLVI, 3888=MMMDCCCLXXXVIII

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
n=int(input('enter number : '))
print('your number = ',n)
value=[1000,900,500,400,100,90,50,40,10,9,5,4,1]
sign=['M','CM','D','CD','C','XC','L','XL','X','IX','V','IV','I']
roman=''
while n>0:
for i in range(len(value)):
roman+=(n//value[i])*sign[i]
n=n%value[i]
print('roman numeral = ',roman)
Ln: 10 Col: 31
Type here to search
ENG
15:57
01-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter number : 1994
your number = 1994
roman numeral = MCMXCIV
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter number : 1956
your number = 1956
roman numeral = MCMLVI
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter number : 3888
your number = 3888
roman numeral = MMMDCCCLXXXVIII
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
enter number : 8888
your number = 8888
roman numeral = MMMMMMMMDCCCLXXXVIII
>>>
Ln: 23 Col: 4
Type here to search
ENG
15:57
01-08-2020

Question 6:

Aim:

ROT13 is a weak form of encryption that involves “rotating” each letter in a word by 13 places. To rotate a letter means to shift it through the alphabet, wrapping around to the beginning if necessary, so ’A’ shifted by 3 is ’D’ and ’Z’ shifted by 1 is ’A’.

Write a function called rotate_word that takes a string and an integer as parameters, and that returns a new string that contains the letters from the original string “rotated” by the given amount.

For example, “cheer” rotated by 7 is “jolly” and “melon” rotated by -10 is “cubed”.

You might want to use the built-in functions ord, which converts a character to a numeric code, and chr, which converts numeric codes to characters.

Code:

comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)

File Edit Format Run Options Window Help

```
def rotate_word(word,amount):
    n_word=''
    for letter in word:
        if letter.isupper():
            n_word+=str(chr(ord(letter)+amount))
        elif not letter.isalpha():
            n_word+=letter
        else:
            if ord(letter)+amount<97:
                n_word+=str(chr(ord(letter)+amount+26))
            else:
                n_word+=str(chr(ord(letter)+amount))
    return n_word
```

Ln: 13 Col: 17

Output:

Python 3.8.0 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
>>> rotate_word('melon',-10)
'cubed'
>>> rotate_word('cheer',7)
'jolly'
>>> rotate_word('abcd',1)
'bcde'
>>>
```

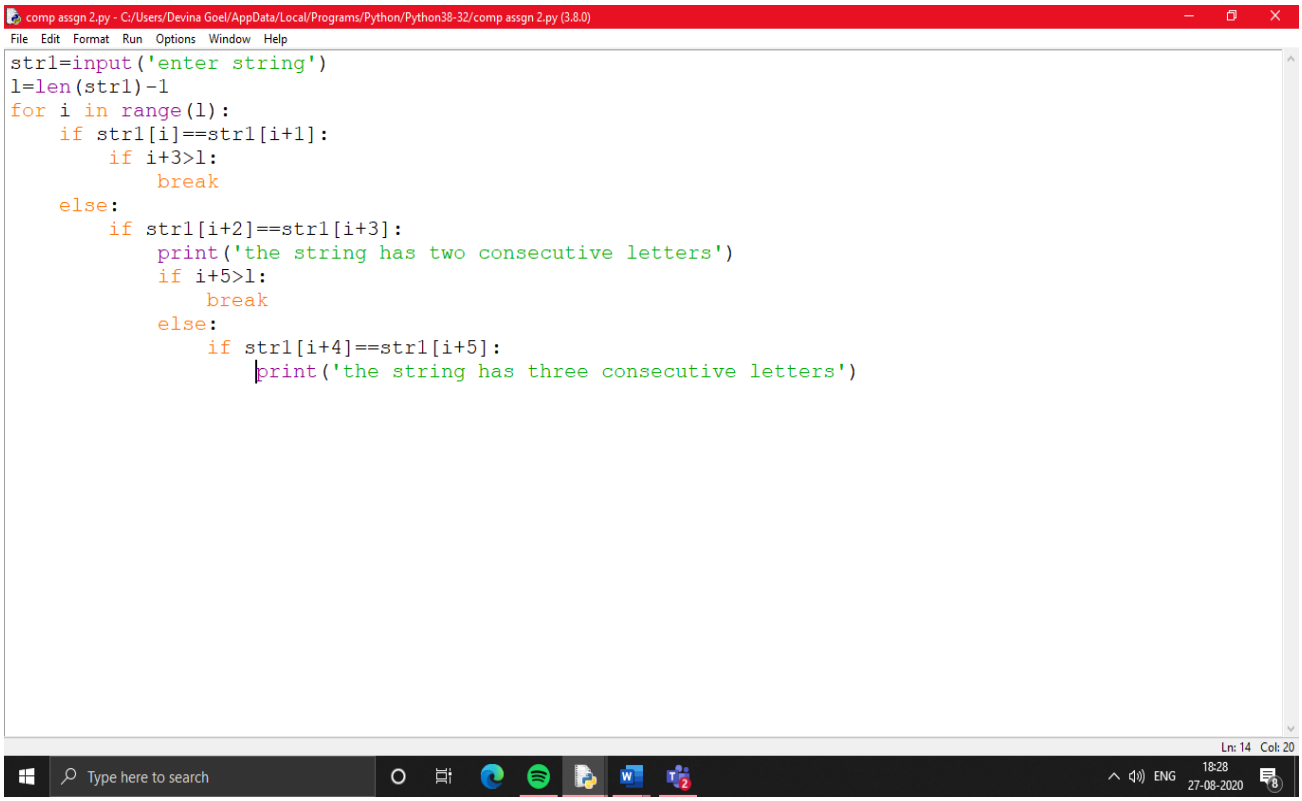
Ln: 8 Col: 7

Question 7:

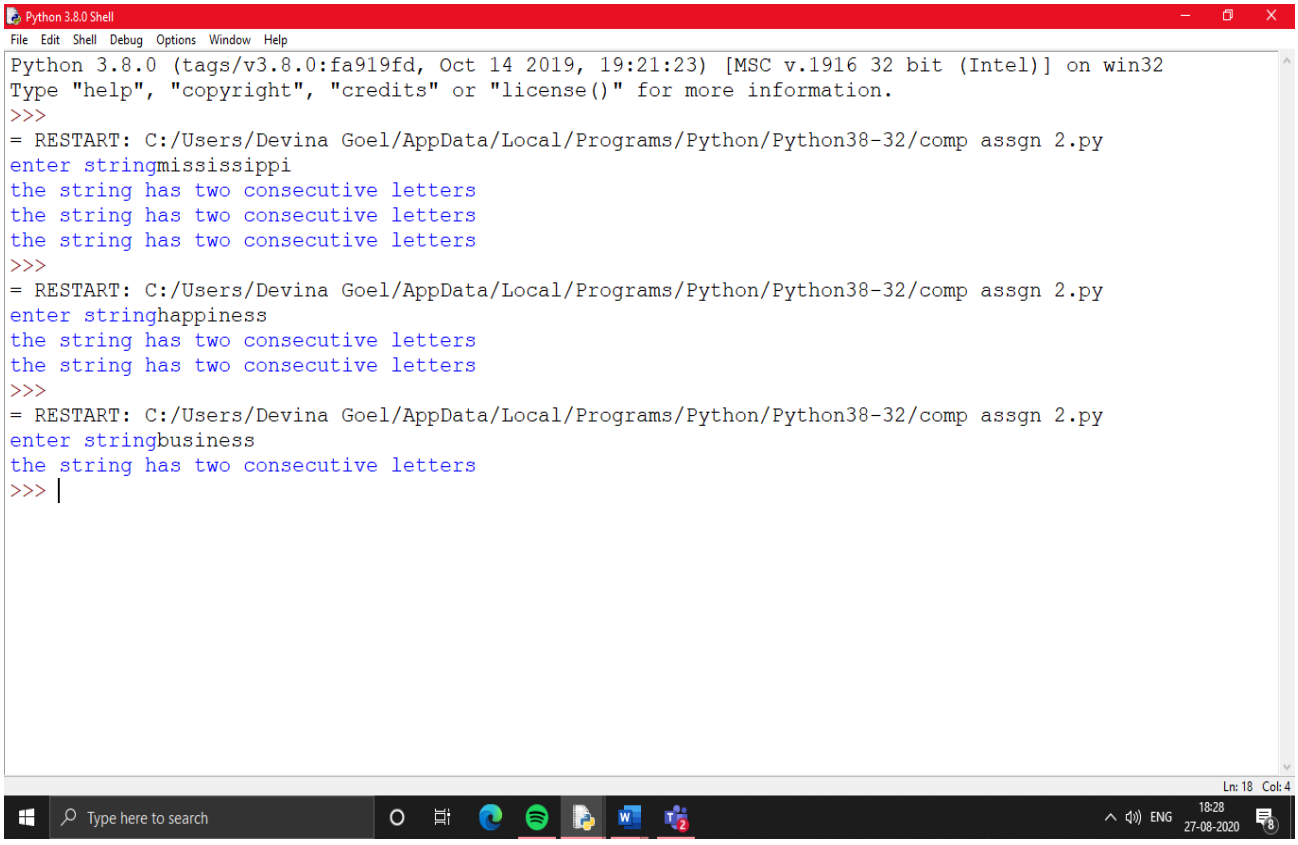
Aim:

This question is based on a Puzzler that was broadcast on the radio program Car Talk. Give me a word with three consecutive double letters. I'll give you a couple of words that almost qualify, but don't. For example, the word committee, c-o-m-m-i-t-t-e-e. It would be great except for the 'i' that sneaks in there. Or Mississippi: M-i-s-s-i-s-s-ip- p-i. If you could take out those i's it would work. But there is a word that has three consecutive pairs of letters and to the best of my knowledge this may be the only word. Of course there are probably 500 more but I can only think of one. What is the word? Write a program to find it/them out of the given string.

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
str1=input('enter string')
l=len(str1)-1
for i in range(l):
if str1[i]==str1[i+1]:
if i+3>l:
break
else:
if str1[i+2]==str1[i+3]:
print('the string has two consecutive letters')
if i+5>l:
break
else:
if str1[i+4]==str1[i+5]:
print('the string has three consecutive letters')
Ln: 14 Col: 20
Type here to search
ENG
18:28
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter stringmississippi
the string has two consecutive letters
the string has two consecutive letters
the string has two consecutive letters
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter stringhappiness
the string has two consecutive letters
the string has two consecutive letters
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter stringbusiness
the string has two consecutive letters
>>>
Ln: 18 Col: 4
Type here to search
ENG
18:28
27-08-2020

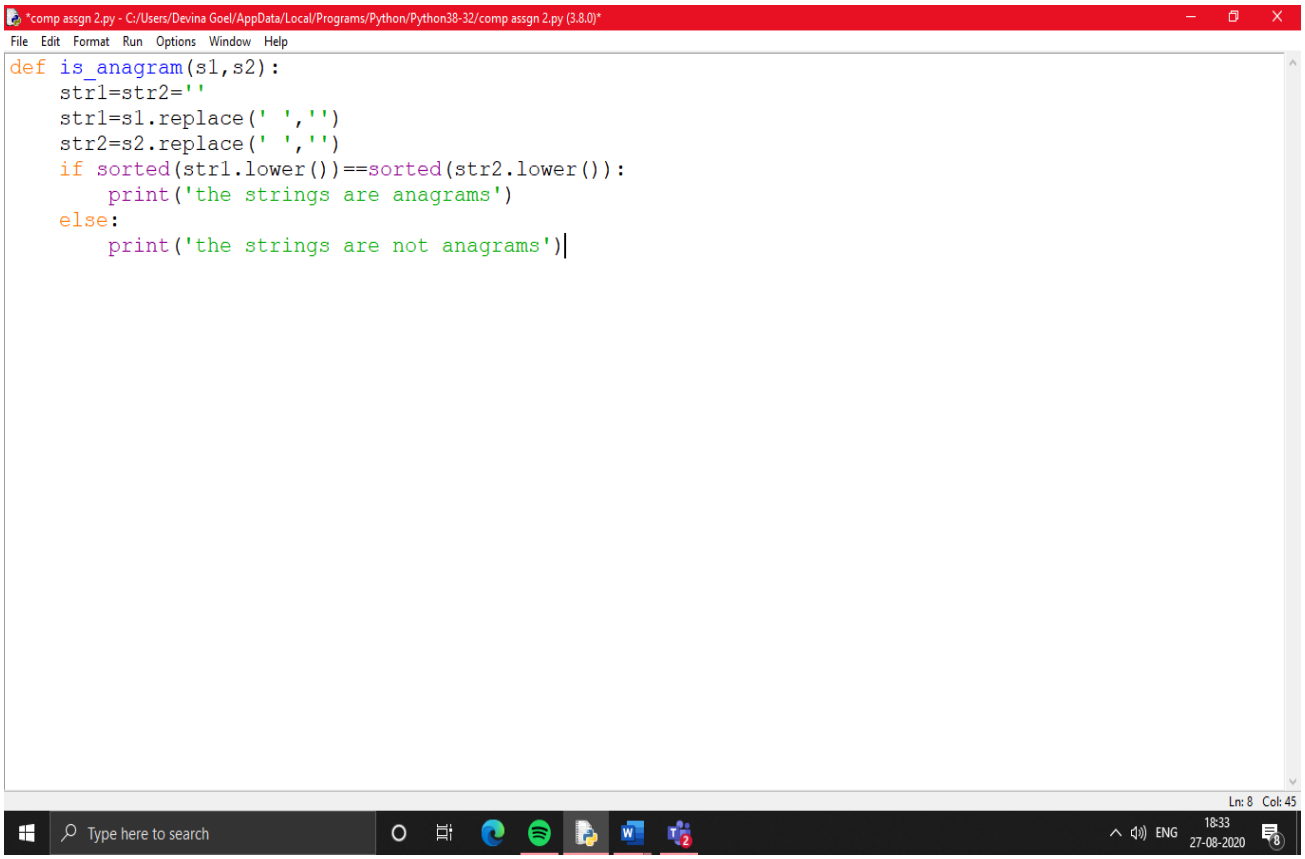
Question 8:

Aim:

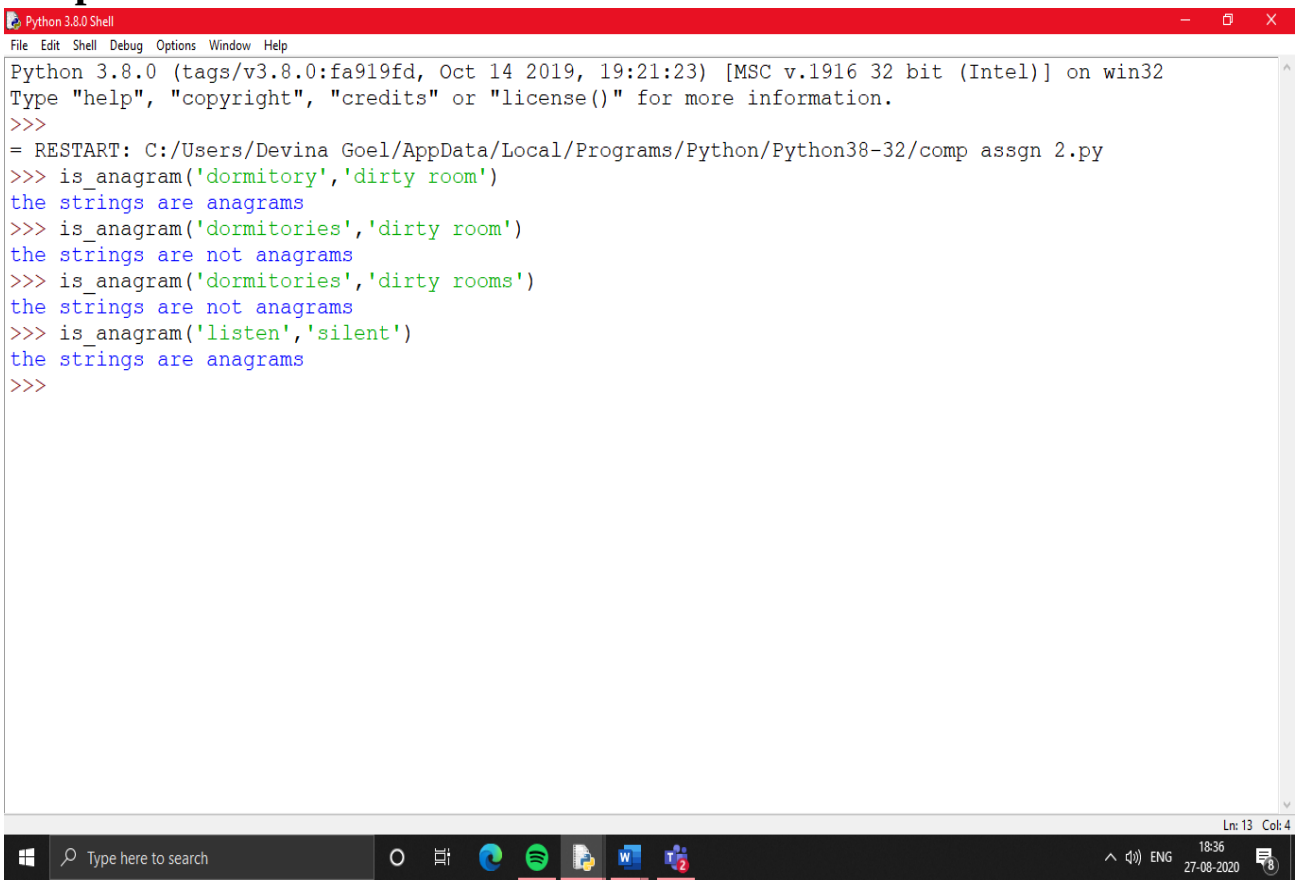
Two words are anagrams if you can rearrange the letters from one to spell the other.

Write a function called is_anagram that takes two strings and returns True if they are anagrams.

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
def is_anagram(s1,s2):
str1=str2=''
str1=s1.replace(' ','')
str2=s2.replace(' ','')
if sorted(str1.lower())==sorted(str2.lower()):
print('the strings are anagrams')
else:
print('the strings are not anagrams')
Ln: 8 Col: 45
Type here to search
ENG
18:33
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
>>> is_anagram('dormitory','dirty room')
the strings are anagrams
>>> is_anagram('dormitories','dirty room')
the strings are not anagrams
>>> is_anagram('dormitories','dirty rooms')
the strings are not anagrams
>>> is_anagram('listen','silent')
the strings are anagrams
>>>
Ln: 13 Col: 4
Type here to search
ENG
18:36
27-08-2020

Question 9:

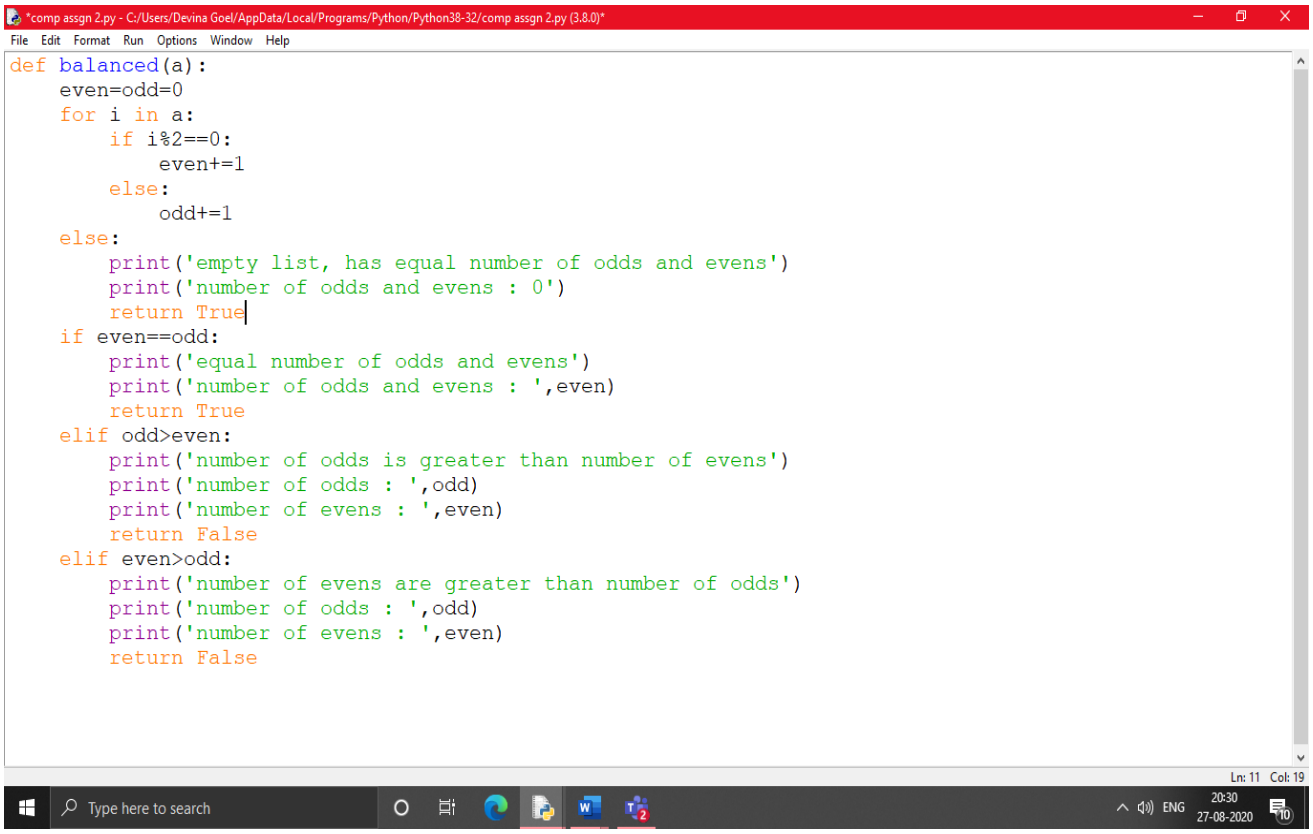
Aim:

Complete the following function that determines if the number of even and odd values in an integer list is the same. The function would return true if the list contains 5, 1, 0, 2 (two evens and two odds), but it would return false for the list containing 5, 1, 0, 2, 11 (too many odds). The function should return true if the list is empty, since an empty list contains the same number of evens and odds (0 for both). The function does not affect the contents of the list.

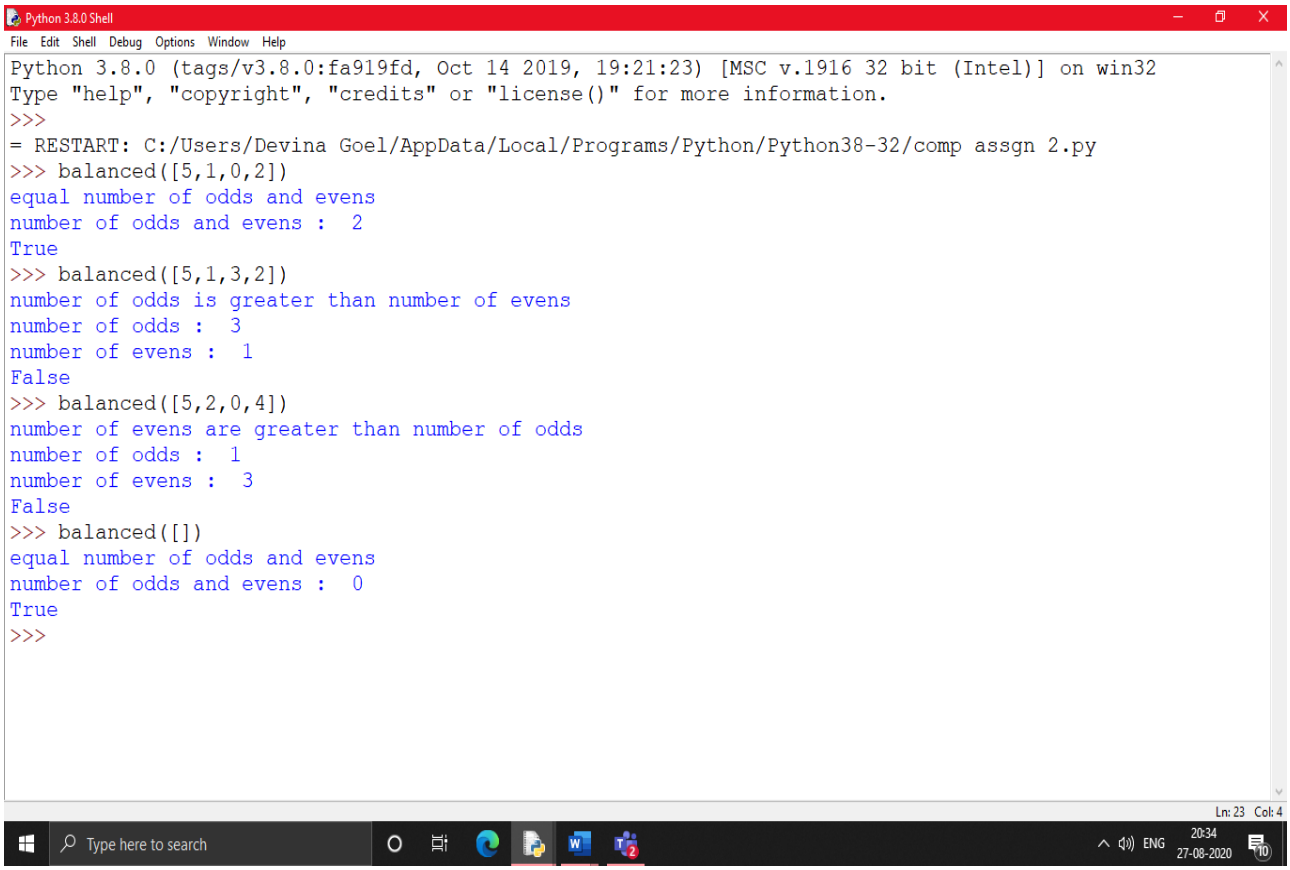
def balanced(a):

 # Add your code...

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
def balanced(a):
even=odd=0
for i in a:
if i%2==0:
even+=1
else:
odd+=1
else:
print('empty list, has equal number of odds and evens')
print('number of odds and evens : 0')
return True
if even==odd:
print('equal number of odds and evens')
print('number of odds and evens : ',even)
return True
elif odd>even:
print('number of odds is greater than number of evens')
print('number of odds : ',odd)
print('number of evens : ',even)
return False
elif even>odd:
print('number of evens are greater than number of odds')
print('number of odds : ',odd)
print('number of evens : ',even)
return False
Ln: 11 Col: 19
Type here to search
ENG
20:30
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
>>> balanced([5,1,0,2])
equal number of odds and evens
number of odds and evens : 2
True
>>> balanced([5,1,3,2])
number of odds is greater than number of evens
number of odds : 3
number of evens : 1
False
>>> balanced([5,2,0,4])
number of evens are greater than number of odds
number of odds : 1
number of evens : 3
False
>>> balanced([])
equal number of odds and evens
number of odds and evens : 0
True
>>>
Ln: 23 Col: 4
Type here to search
ENG
20:34
27-08-2020

Question 10:

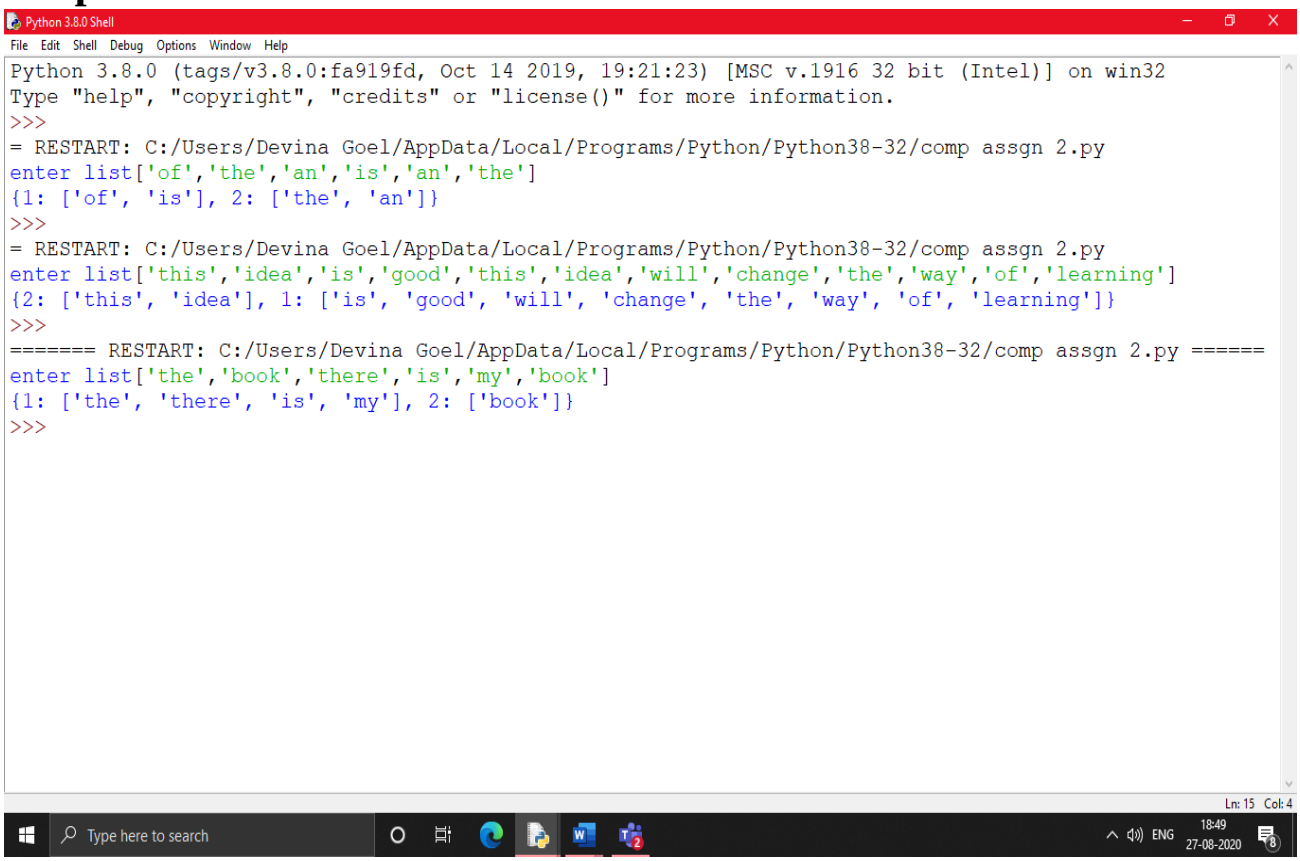
Aim:

Write a program that takes a list of words and creates a dictionary with frequency (number of occurences) of word as key and list of words for that frequency as value. For example, if list is given as [‘the’,’of’, ‘an’, ‘is’, ‘an’, ‘the’] Then dictionary should be {2:[‘the’,’an’],1:[‘of’,’is’]}

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
l=eval(input('enter list'))
d={}
for i in l:
c=l.count(i)
if c not in d:
d[c]=[i]
else:
if i not in d[c]:
d[c].append(i)
print(d)
Ln: 6 Col: 16
Type here to search
ENG
18:49
27-08-2020

Output:

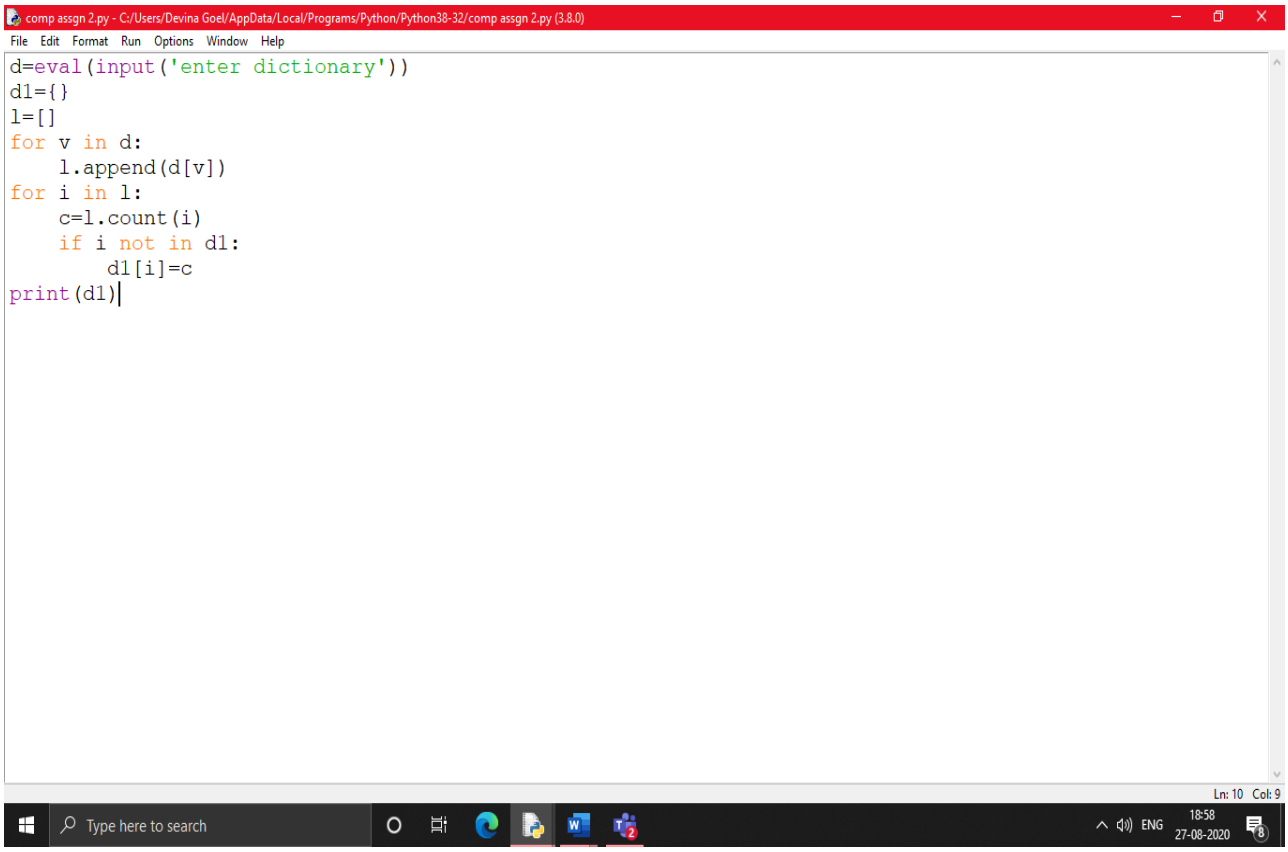

Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter list['of','the','an','is','an','the']
{1: ['of', 'is'], 2: ['the', 'an']}
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter list['this','idea','is','good','this','idea','will','change','the','way','of','learning']
{2: ['this', 'idea'], 1: ['is', 'good', 'will', 'change', 'the', 'way', 'of', 'learning']}
>>>
======= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py ======
enter list['the','book','there','is','my','book']
{1: ['the', 'there', 'is', 'my'], 2: ['book']}
>>>
Ln: 15 Col: 4
Type here to search
ENG
18:49
27-08-2020

Question 11:

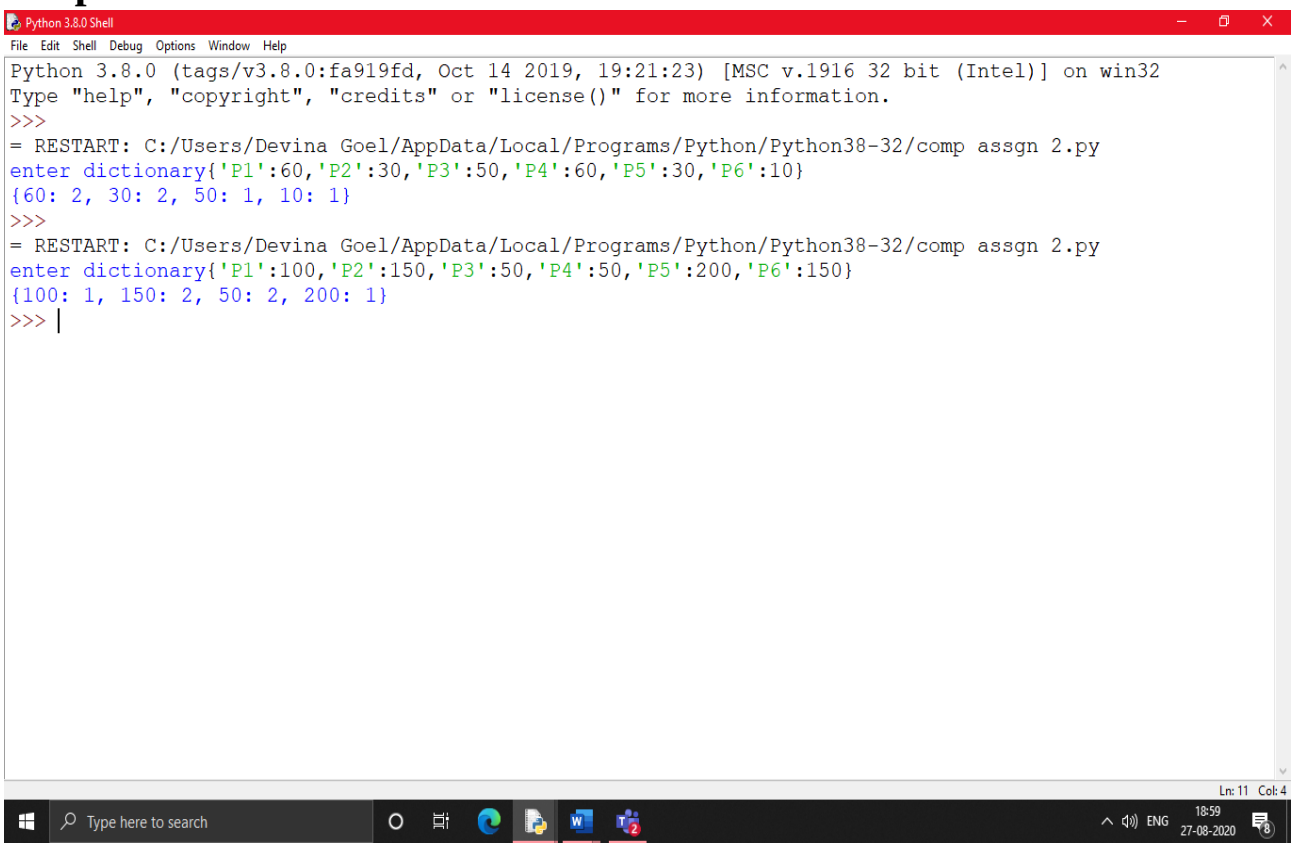
Aim:

Write a program to find the frequency of values in the given dictionary. For example, if the dictionary is given as D={‘P1’:60,’P2’:30,’P3’:50,’P4’:60,’P5’:30,’P6’:10} Then output should be {10:1,30:2,50:1,60:2}

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
d=eval(input('enter dictionary'))
d1={}
l=[]
for v in d:
l.append(d[v])
for i in l:
c=l.count(i)
if i not in d1:
d1[i]=c
print(d1)
Ln: 10 Col: 9
Type here to search
ENG
18:58
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter dictionary{'P1':60,'P2':30,'P3':50,'P4':60,'P5':30,'P6':10}
{60: 2, 30: 2, 50: 1, 10: 1}
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter dictionary{'P1':100,'P2':150,'P3':50,'P4':50,'P5':200,'P6':150}
{100: 1, 150: 2, 50: 2, 200: 1}
>>>
Ln: 11 Col: 4
Type here to search
ENG
18:59
27-08-2020

Question 12:

Aim:

Write a program to input the roll numbers, names, and marks of n students of a class in a list, sort the data in descending order of their marks using bubble sort and then display the sorted details of all the students.

Expected output:

Enter the number of students: 3

Now enter students' data one by one:

Students number 1:

Roll number: 1

Name: aaa

Marks: 85

Students number 2 :

Roll number: 3

Name: bbb

Marks: 75

Students number 3 :

Roll number: 3

Name: ccc

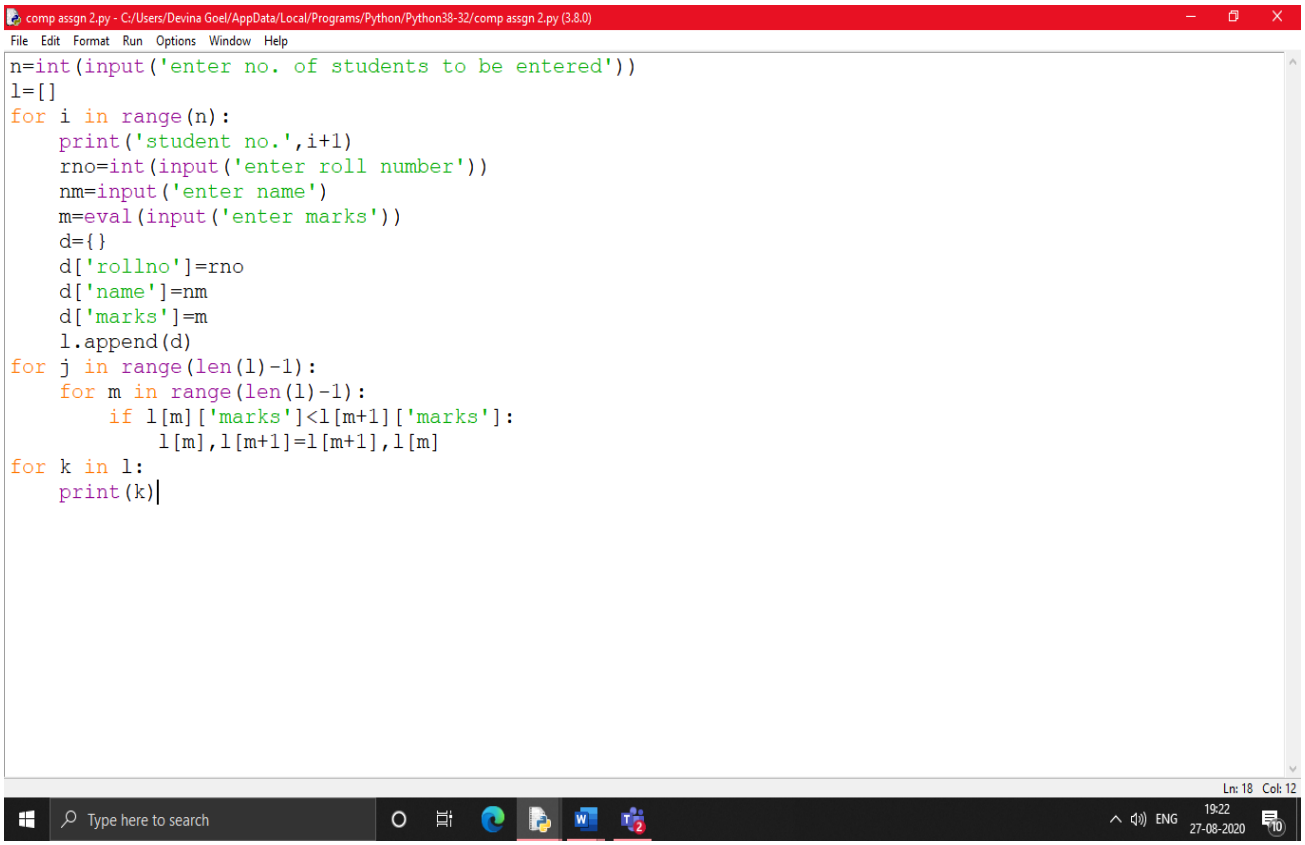
Marks: 95

Details of students in descending order of their marks: {'rno': 3, 'name': 'ccc', 'marks': 95.0}

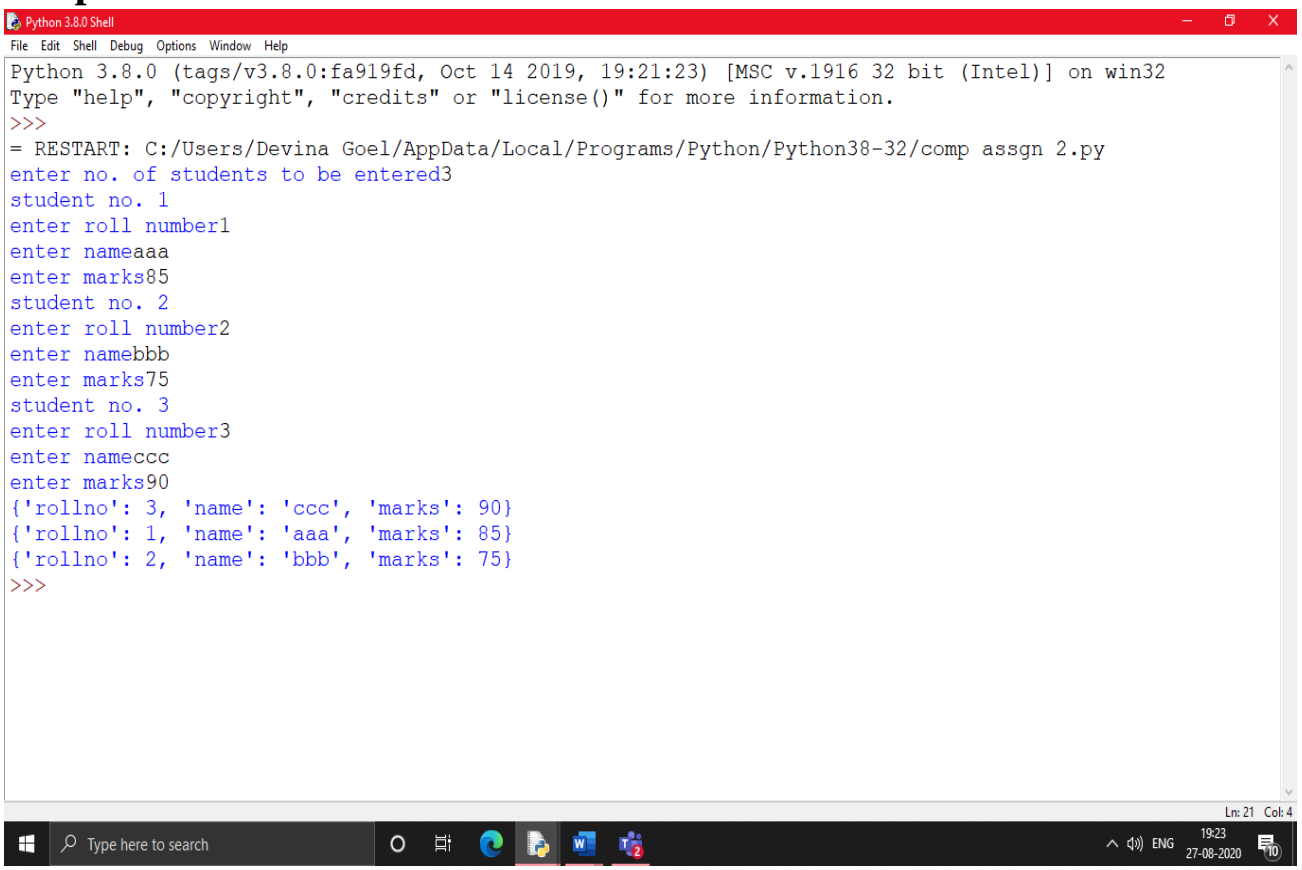
{'rno': 1, 'name': 'aaa', 'marks': 85.0}

{'rno': 3, 'name': 'bbb', 'marks': 75.0}

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
n=int(input('enter no. of students to be entered'))
l=[]
for i in range(n):
print('student no.',i+1)
rno=int(input('enter roll number'))
nm=input('enter name')
m=eval(input('enter marks'))
d={}
d['rollno']=rno
d['name']=nm
d['marks']=m
l.append(d)
for j in range(len(l)-1):
for m in range(len(l)-1):
if l[m]['marks']<l[m+1]['marks']:
l[m],l[m+1]=l[m+1],l[m]
for k in l:
print(k)
Ln: 18 Col: 12
Type here to search
ENG
19:22
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter no. of students to be entered3
student no. 1
enter roll number1
enter nameaaa
enter marks85
student no. 2
enter roll number2
enter namebbb
enter marks75
student no. 3
enter roll number3
enter nameccc
enter marks90
{'rollno': 3, 'name': 'ccc', 'marks': 90}
{'rollno': 1, 'name': 'aaa', 'marks': 85}
{'rollno': 2, 'name': 'bbb', 'marks': 75}
>>>
Ln: 21 Col: 4
Type here to search
ENG
19:23
27-08-2020

Question 13:

Aim:

Write a program to input the roll numbers, names, and marks of n students of a class in a list, sort the data in alphabetical order of their names using insertion sort and then display the sorted details of all the students. Expected output:

Enter the number of students: 3

Now enter students data one by one:

Students number 1 :

Roll number: 1

Name: pallavi

Marks: 80

Students number 2 :

Roll number: 2

Name: raghav

Marks: 90

Students number 3 :

Roll number: 3

Name: anushka

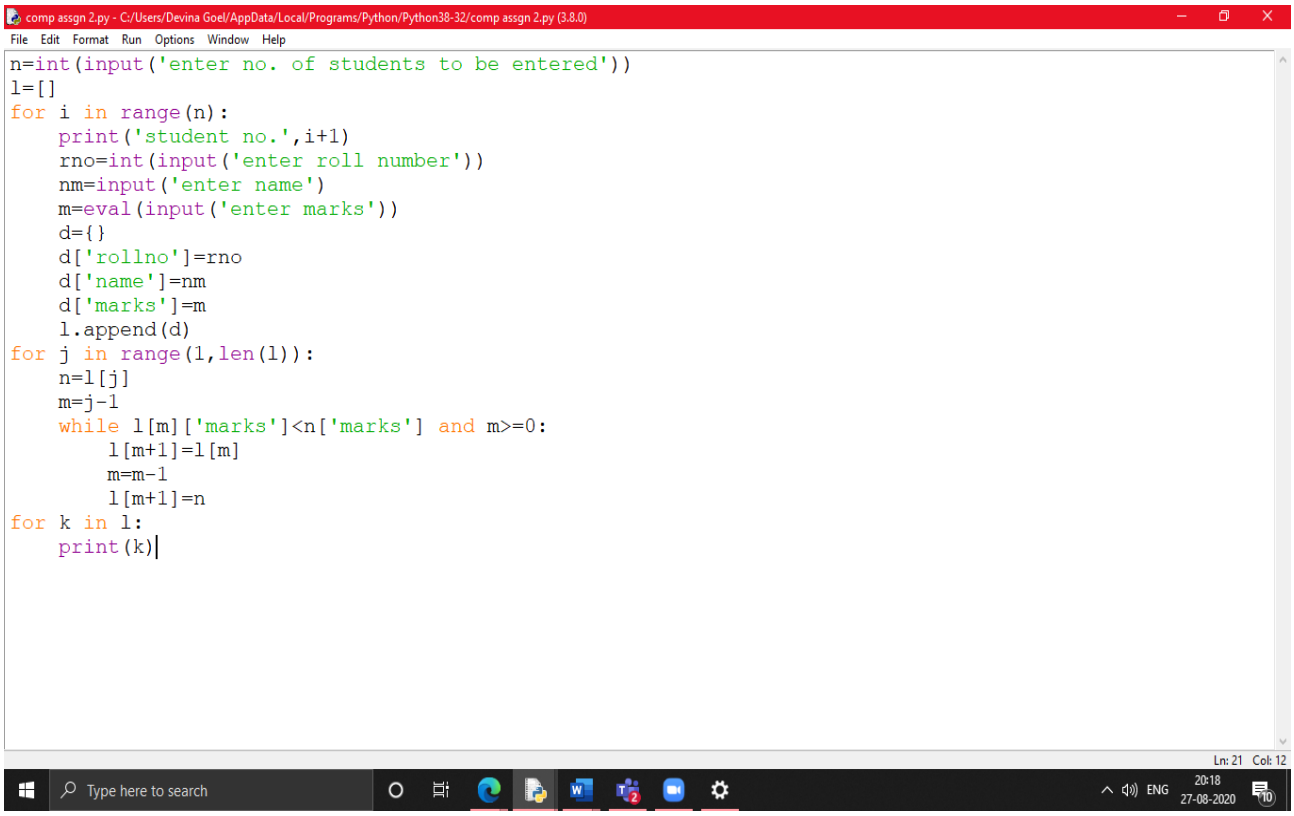
Marks: 75

Details of students in descending order of their marks: {'rno': 3, 'name': 'anushka', 'marks': 75.0}

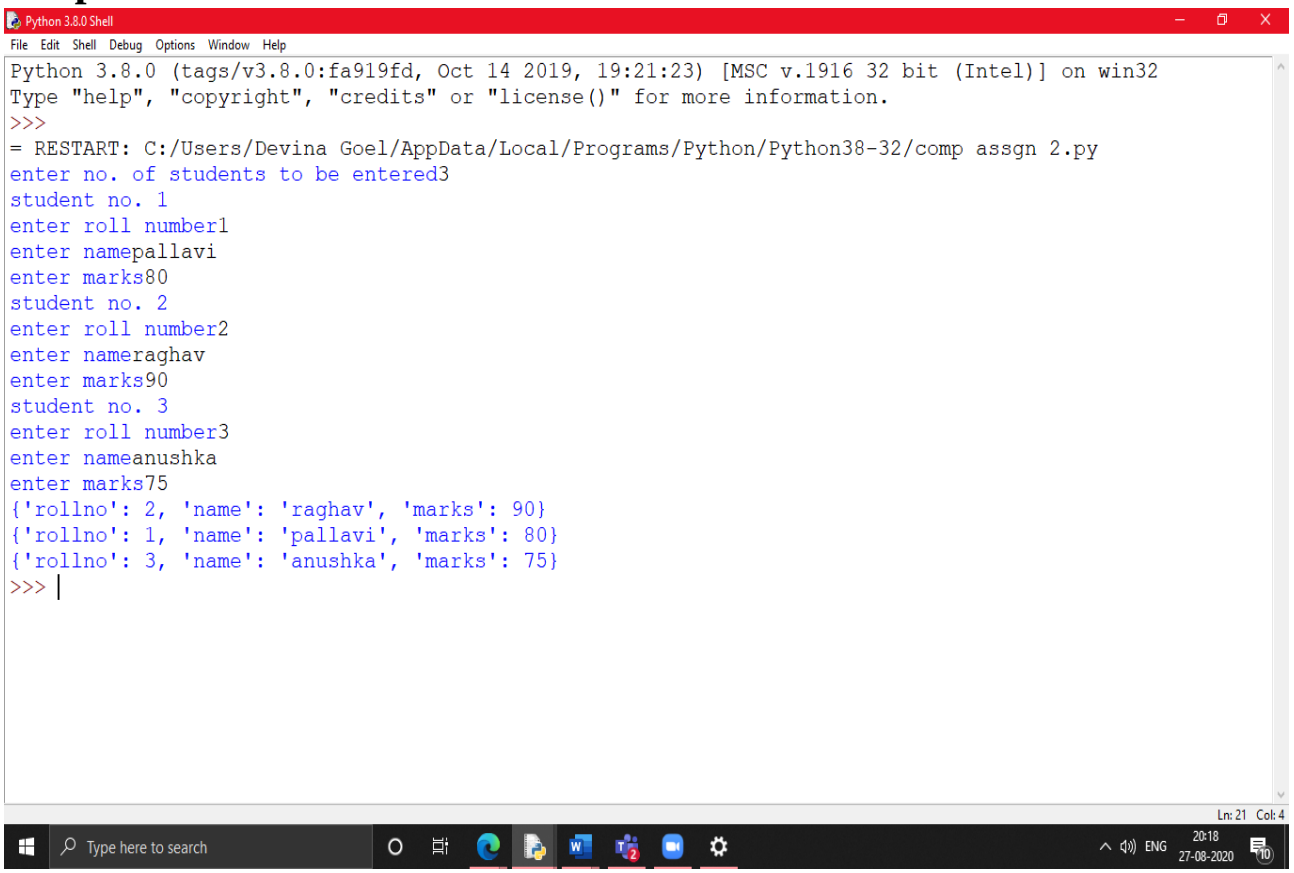
{'rno': 1, 'name': 'pallavi', 'marks': 80.0}

{'rno': 2, 'name': 'raghav', 'marks': 90.0}

Code:


comp assgn 2.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py (3.8.0)
File Edit Format Run Options Window Help
n=int(input('enter no. of students to be entered'))
l=[]
for i in range(n):
print('student no.',i+1)
rno=int(input('enter roll number'))
nm=input('enter name')
m=eval(input('enter marks'))
d={}
d['rollno']=rno
d['name']=nm
d['marks']=m
l.append(d)
for j in range(1,len(l)):
n=l[j]
m=j-1
while l[m]['marks']<n['marks'] and m>=0:
l[m+1]=l[m]
m=m-1
l[m+1]=n
for k in l:
print(k)
Ln: 21 Col: 12
Type here to search
ENG
20:18
27-08-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/comp assgn 2.py
enter no. of students to be entered3
student no. 1
enter roll number1
enter namepallavi
enter marks80
student no. 2
enter roll number2
enter nameraghav
enter marks90
student no. 3
enter roll number3
enter nameanushka
enter marks75
{'rollno': 2, 'name': 'raghav', 'marks': 90}
{'rollno': 1, 'name': 'pallavi', 'marks': 80}
{'rollno': 3, 'name': 'anushka', 'marks': 75}
>>>
Ln: 21 Col: 4
Type here to search
ENG
20:18
27-08-2020

Question 14:

Aim:

Write a menu driven program to

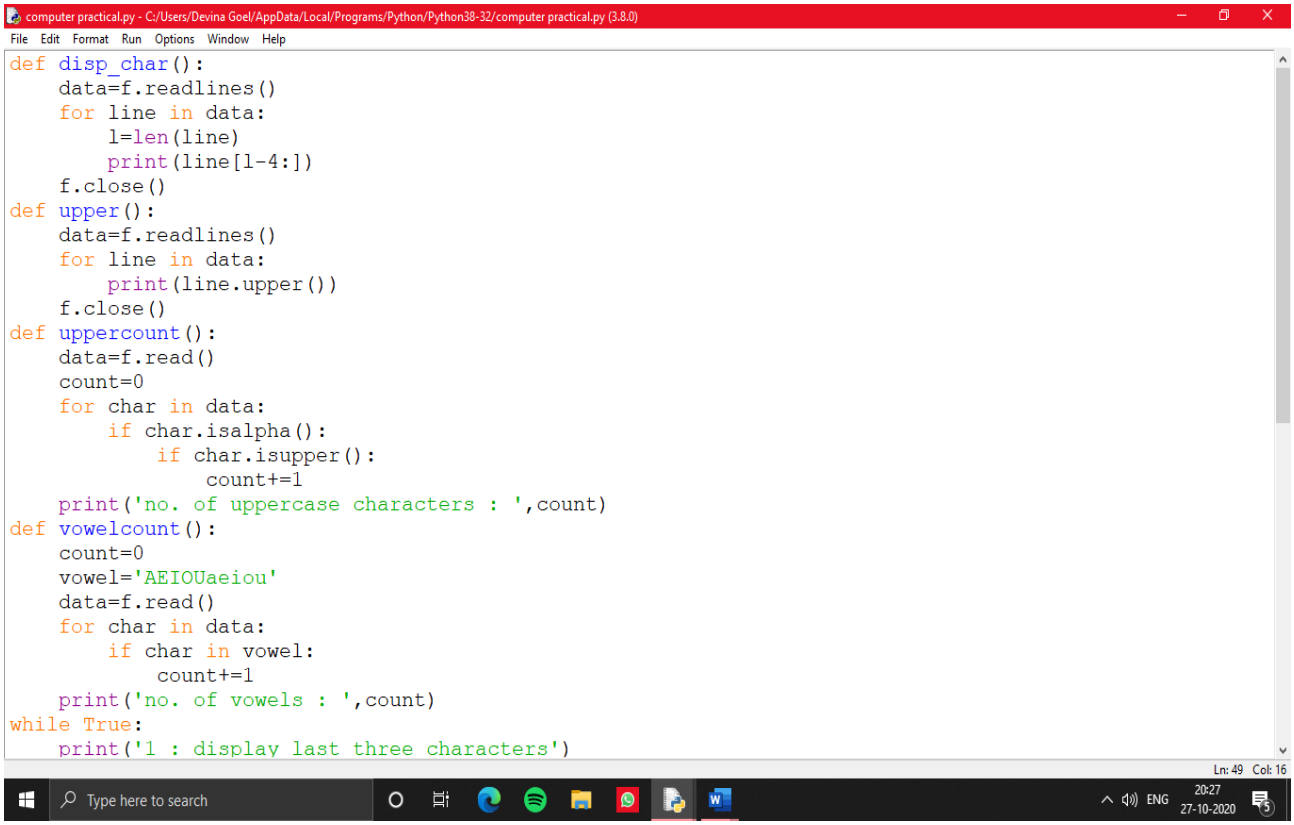
• to display last three characters of all the lines available in the text File ‘abcd.txt’

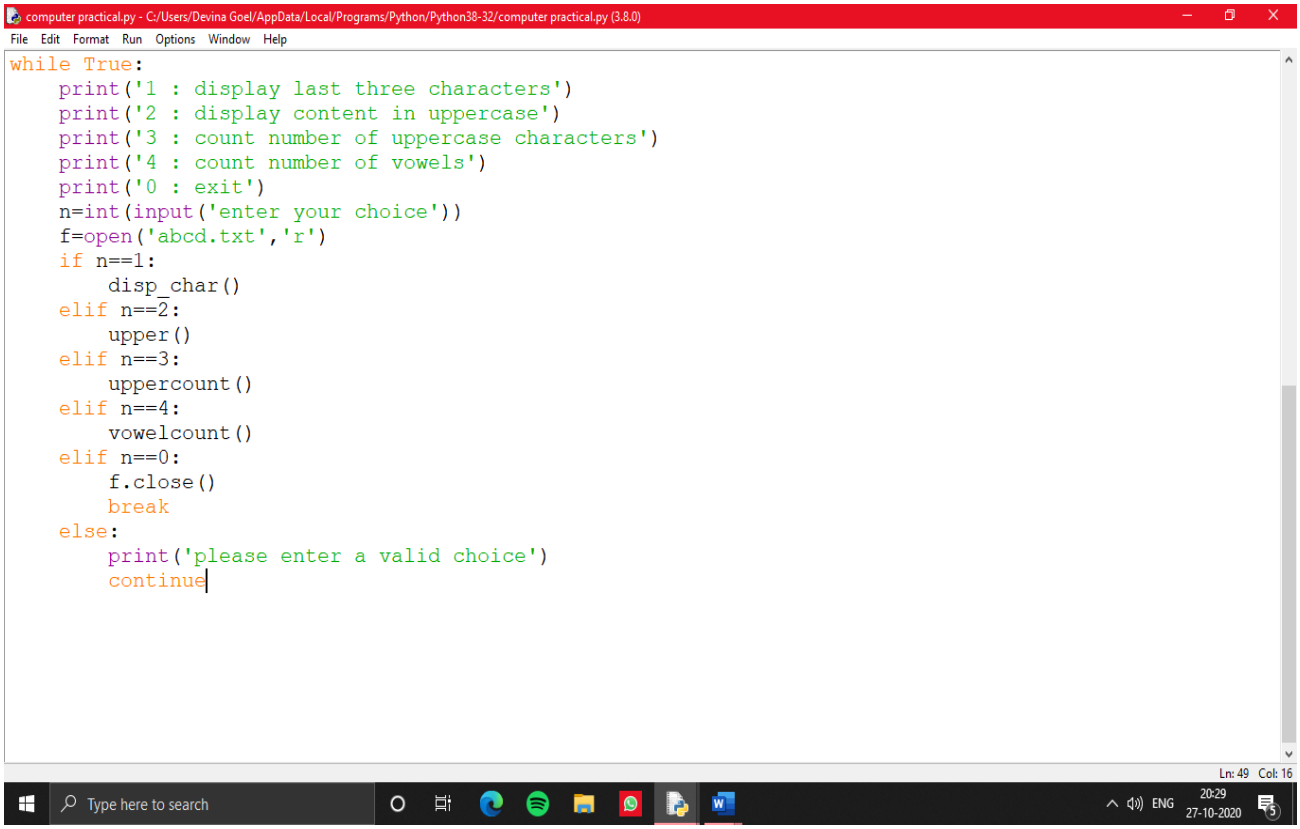
• to display the content of a text file ‘abcd.txt’ file in uppercase.

• to find and display the count of all the uppercase characters available in text file ‘abcd.txt’

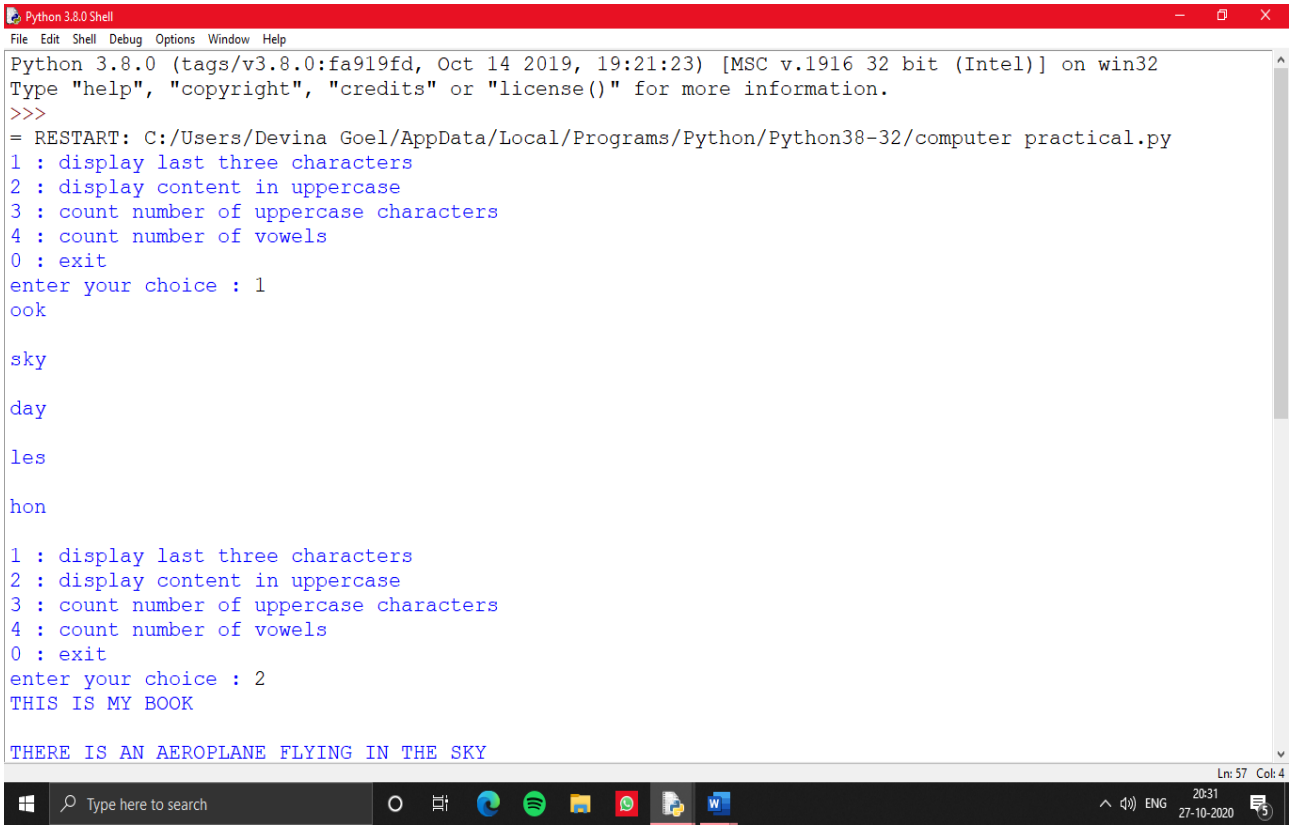
• to count and display total number of vowels available in a text File ‘abcd.txt’

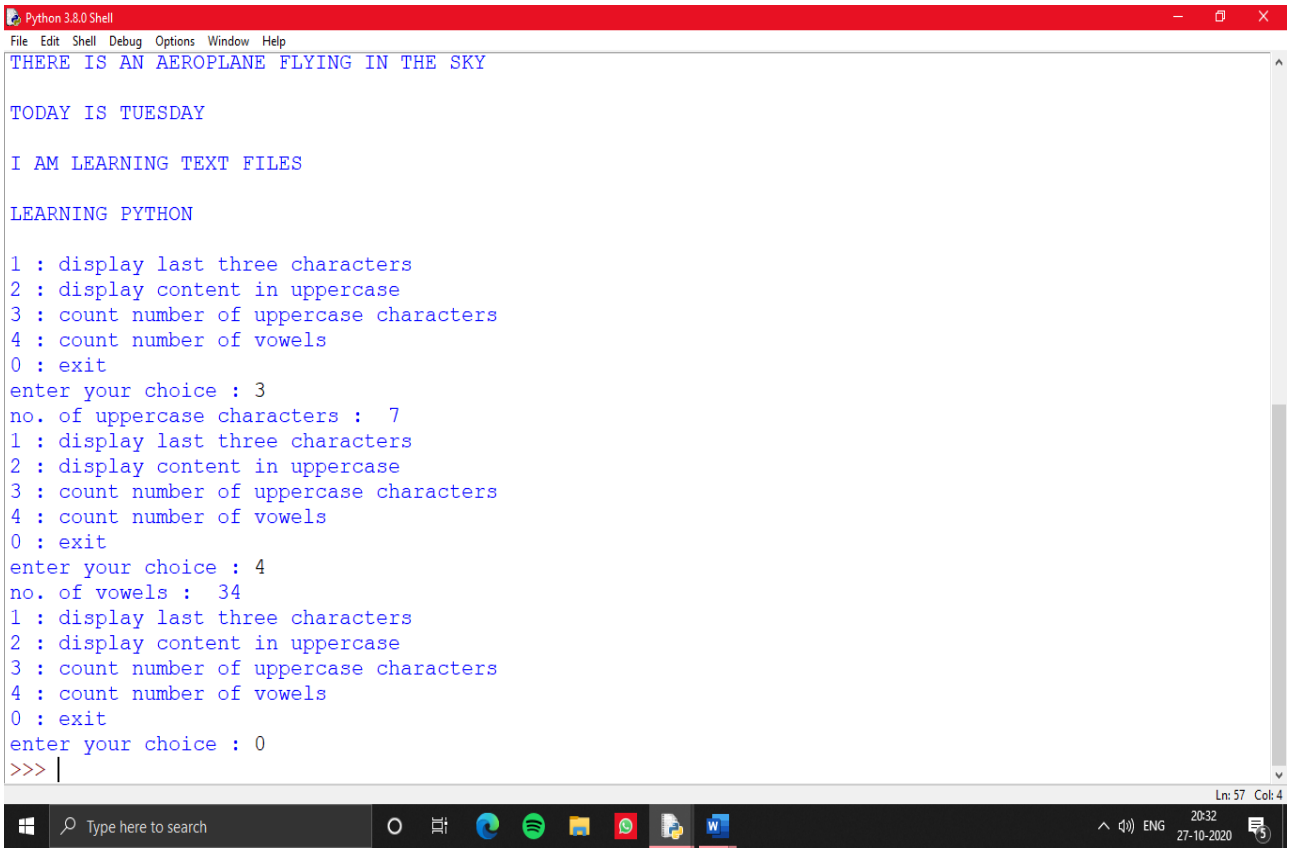
Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
def disp_char():
data=f.readlines()
for line in data:
l=len(line)
print(line[l-4:])
f.close()
def upper():
data=f.readlines()
for line in data:
print(line.upper())
f.close()
def uppercount():
data=f.read()
count=0
for char in data:
if char.isalpha():
if char.isupper():
count+=1
print('no. of uppercase characters : ',count)
def vowelcount():
count=0
vowel='AEIOUaeiou'
data=f.read()
for char in data:
if char in vowel:
count+=1
print('no. of vowels : ',count)
while True:
print('1 : display last three characters')
Ln: 49 Col: 16
Type here to search
ENG
20:27
27-10-2020


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
while True:
print('1 : display last three characters')
print('2 : display content in uppercase')
print('3 : count number of uppercase characters')
print('4 : count number of vowels')
print('0 : exit')
n=int(input('enter your choice'))
f=open('abcd.txt','r')
if n==1:
disp_char()
elif n==2:
upper()
elif n==3:
uppercount()
elif n==4:
vowelcount()
elif n==0:
f.close()
break
else:
print('please enter a valid choice')
continue
Ln: 49 Col: 16
Type here to search
ENG
20:29
27-10-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
1 : display last three characters
2 : display content in uppercase
3 : count number of uppercase characters
4 : count number of vowels
0 : exit
enter your choice : 1
ook
sky
day
les
hon
1 : display last three characters
2 : display content in uppercase
3 : count number of uppercase characters
4 : count number of vowels
0 : exit
enter your choice : 2
THIS IS MY BOOK
THERE IS AN AEROPLANE FLYING IN THE SKY
Ln: 57 Col: 4
Type here to search
ENG
20:31
27-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
THERE IS AN AEROPLANE FLYING IN THE SKY
TODAY IS TUESDAY
I AM LEARNING TEXT FILES
LEARNING PYTHON
1 : display last three characters
2 : display content in uppercase
3 : count number of uppercase characters
4 : count number of vowels
0 : exit
enter your choice : 3
no. of uppercase characters : 7
1 : display last three characters
2 : display content in uppercase
3 : count number of uppercase characters
4 : count number of vowels
0 : exit
enter your choice : 4
no. of vowels : 34
1 : display last three characters
2 : display content in uppercase
3 : count number of uppercase characters
4 : count number of vowels
0 : exit
enter your choice : 0
>>>
Ln: 57 Col: 4
Type here to search
ENG
20:32
27-10-2020

Question 15:

Aim:

Write a menu driven program to

• to read the content of a text file ‘abcd.txt’ file and copy the same content in another file ‘Copy.txt’ file

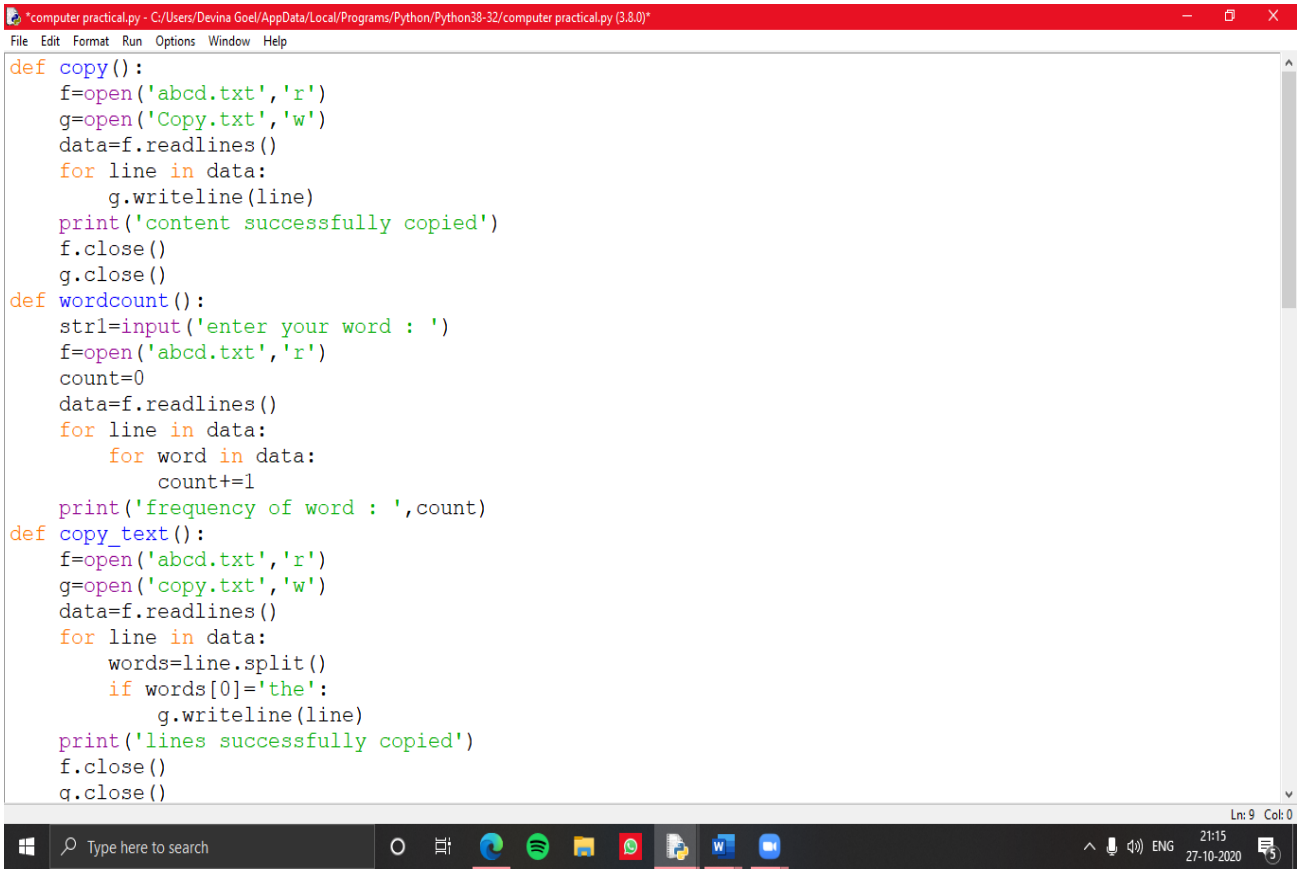
• to read a word from keyboard and find out the frequency of this word in a text file ‘abcd.txt’

• To read a text file ‘abcd.txt’ and copy all those lines that start with ‘the’ into another text file ‘copy.txt’

• to read the text file ‘abcd.txt’ and replace the word ‘This’ with ‘That’ in this file.

• to read the text file ‘abcd.txt’ and display the content after removing the word ‘This’ from the file

Code:


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
def copy():
f=open('abcd.txt','r')
g=open('Copy.txt','w')
data=f.readlines()
for line in data:
g.writeline(line)
print('content successfully copied')
f.close()
g.close()
def wordcount():
str1=input('enter your word : ')
f=open('abcd.txt','r')
count=0
data=f.readlines()
for line in data:
for word in data:
count+=1
print('frequency of word : ',count)
def copy_text():
f=open('abcd.txt','r')
g=open('copy.txt','w')
data=f.readlines()
for line in data:
words=line.split()
if words[0]='the':
g.writeline(line)
print('lines successfully copied')
f.close()
g.close()
Ln: 9 Col: 0
Type here to search
ENG
21:15
27-10-2020


computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)
File Edit Format Run Options Window Help
def replaceword():
f=open('abcd.txt','r')
data=f.readlines()
for line in data:
words=line.split()
for i in range(len(words)):
if words[i]='This':
words[i]='That'
for j in words:
print(j,end=' ')
print()
print()
def disp_file():
f=open('abcd.txt','r')
data=f.readlines()
for line in data:
words=line.split()
for i in range(len(words)):
if words[i]='This':
words[i]=''
for j in words:
if j=='':
print(j,end='')
else:
print(j,end=' ')
print()
print()
while True:
print('1 : copy content')
Ln: 29 Col: 0
Type here to search
ENG
21:15
27-10-2020

computer practical.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py (3.8.0)

File Edit Format Run Options Window Help

```
    print()
while True:
    print('1 : copy content')
    print('2 : display frequency of a word')
    print("3 : copy lines starting with 'the'")
    print("4 : replace 'This' with 'That'")
    print("5 : display content after removing 'This'")
    print('0 : exit')
    n=input('enter your choice : ')
    if n=='1':
        copy()
    elif n=='2':
        wordcount()
    elif n=='3':
        copy_text()
    elif n=='4':
        replaceword()
    elif n=='5':
        disp_file()
    elif n=='0':
        break
    else:
        print('enter a valid choice')
        continue
```

Ln: 29 Col: 0

Type here to search ENG 21:16 27-10-2020

Output:

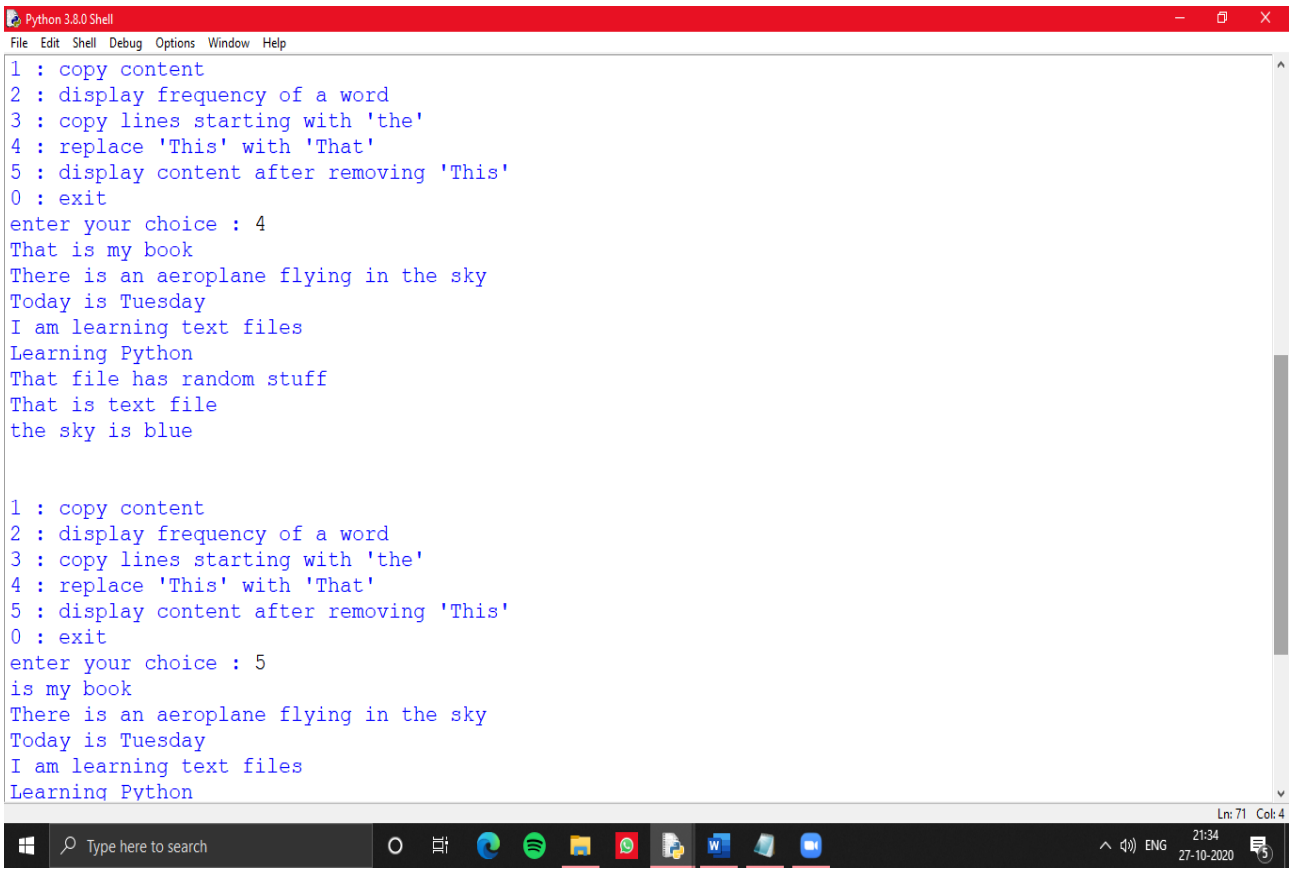
Python 3.8.0 Shell

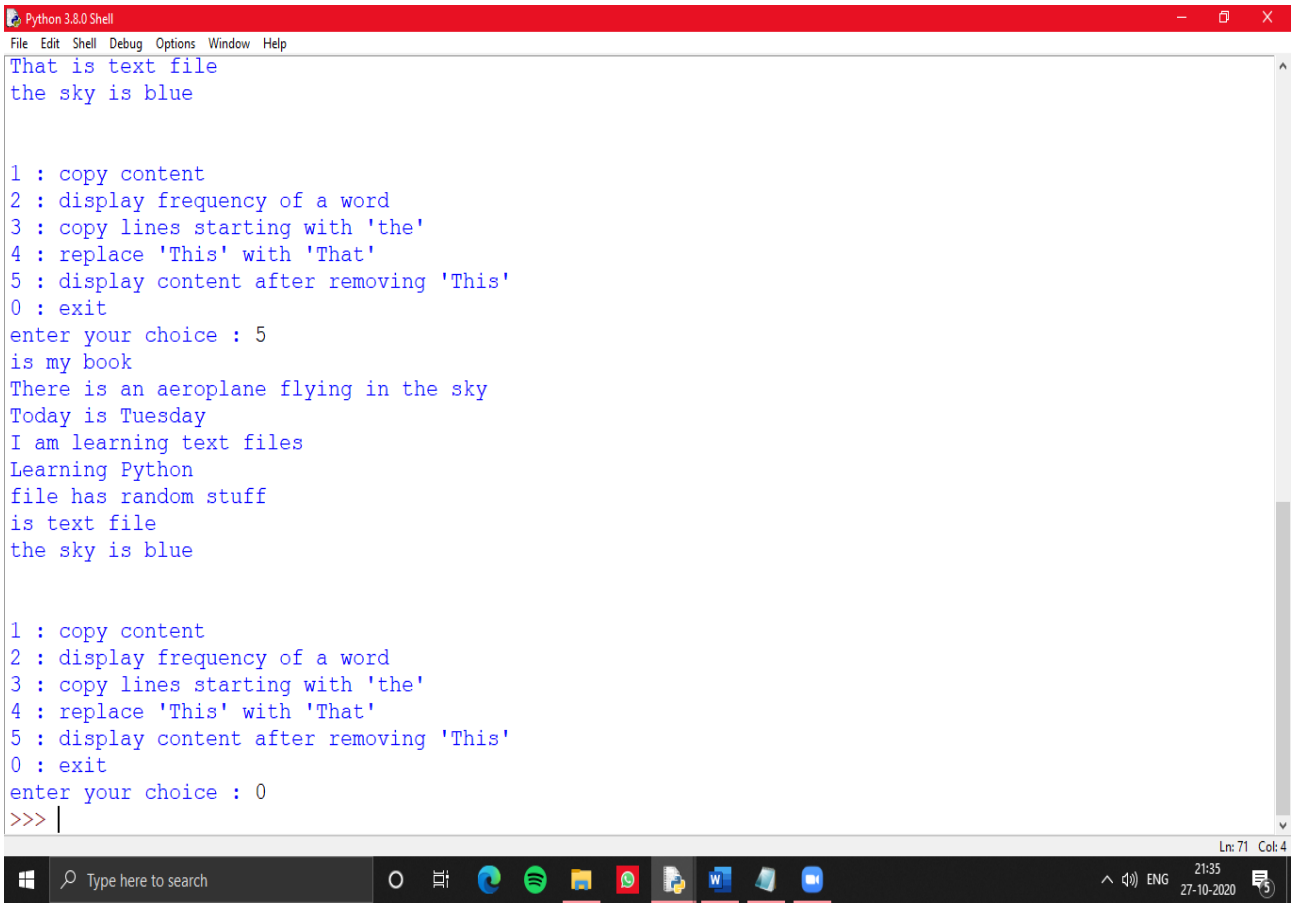
File Edit Shell Debug Options Window Help

```
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/computer practical.py
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 1
content successfully copied
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 2
enter your word : This
frequency of word :  3
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 3
lines successfully copied
```

Ln: 71 Col: 4

Type here to search ENG 21:34 27-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 4
That is my book
There is an aeroplane flying in the sky
Today is Tuesday
I am learning text files
Learning Python
That file has random stuff
That is text file
the sky is blue
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 5
is my book
There is an aeroplane flying in the sky
Today is Tuesday
I am learning text files
Learning Python
Ln: 71 Col: 4
Type here to search
ENG
21:34
27-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
That is text file
the sky is blue
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 5
is my book
There is an aeroplane flying in the sky
Today is Tuesday
I am learning text files
Learning Python
file has random stuff
is text file
the sky is blue
1 : copy content
2 : display frequency of a word
3 : copy lines starting with 'the'
4 : replace 'This' with 'That'
5 : display content after removing 'This'
0 : exit
enter your choice : 0
>>>
Ln: 71 Col: 4
Type here to search
ENG
21:35
27-10-2020

Question 16:

Aim:

Following is the structure of each record in a data file named "PRODUCT.DAT".

{"prod_code":value, "prod_desc":value, "stock":value}

The values for prod_code and prod_desc are strings, and the value for stock is an integer.

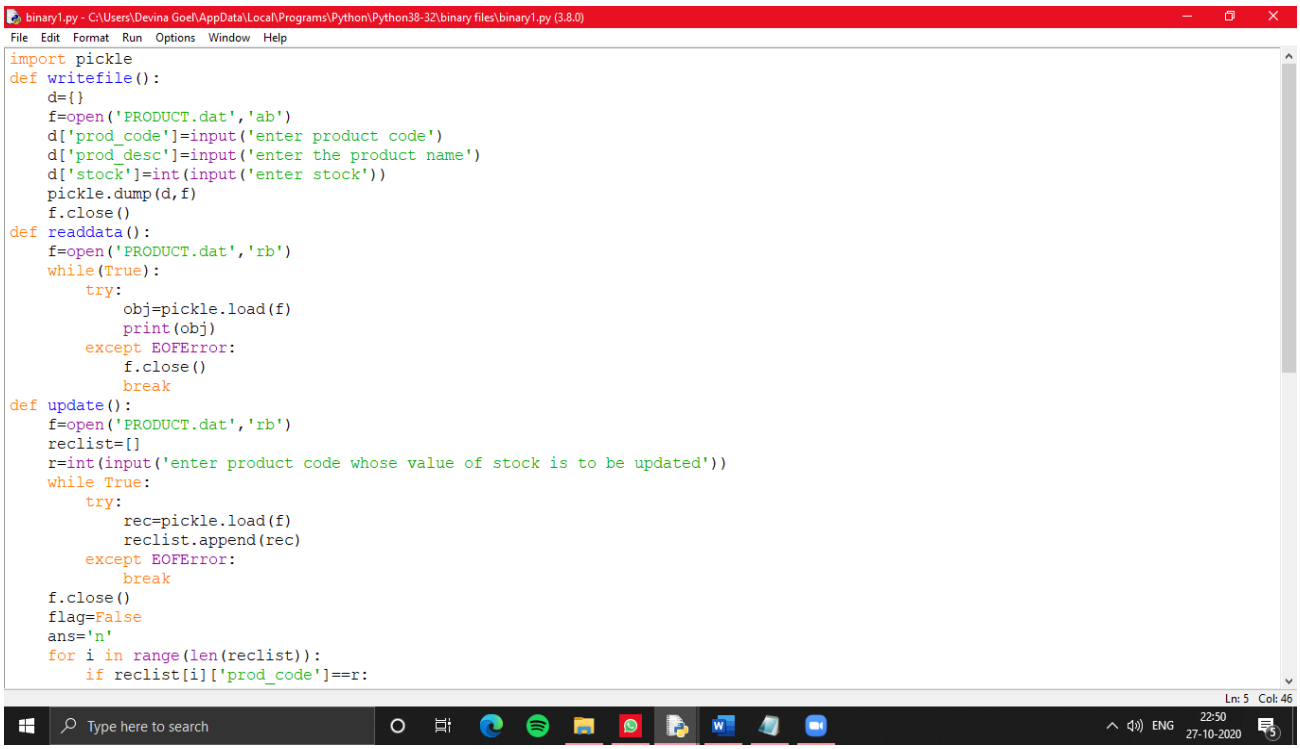
Write a menu driven program using functions

• to enter records

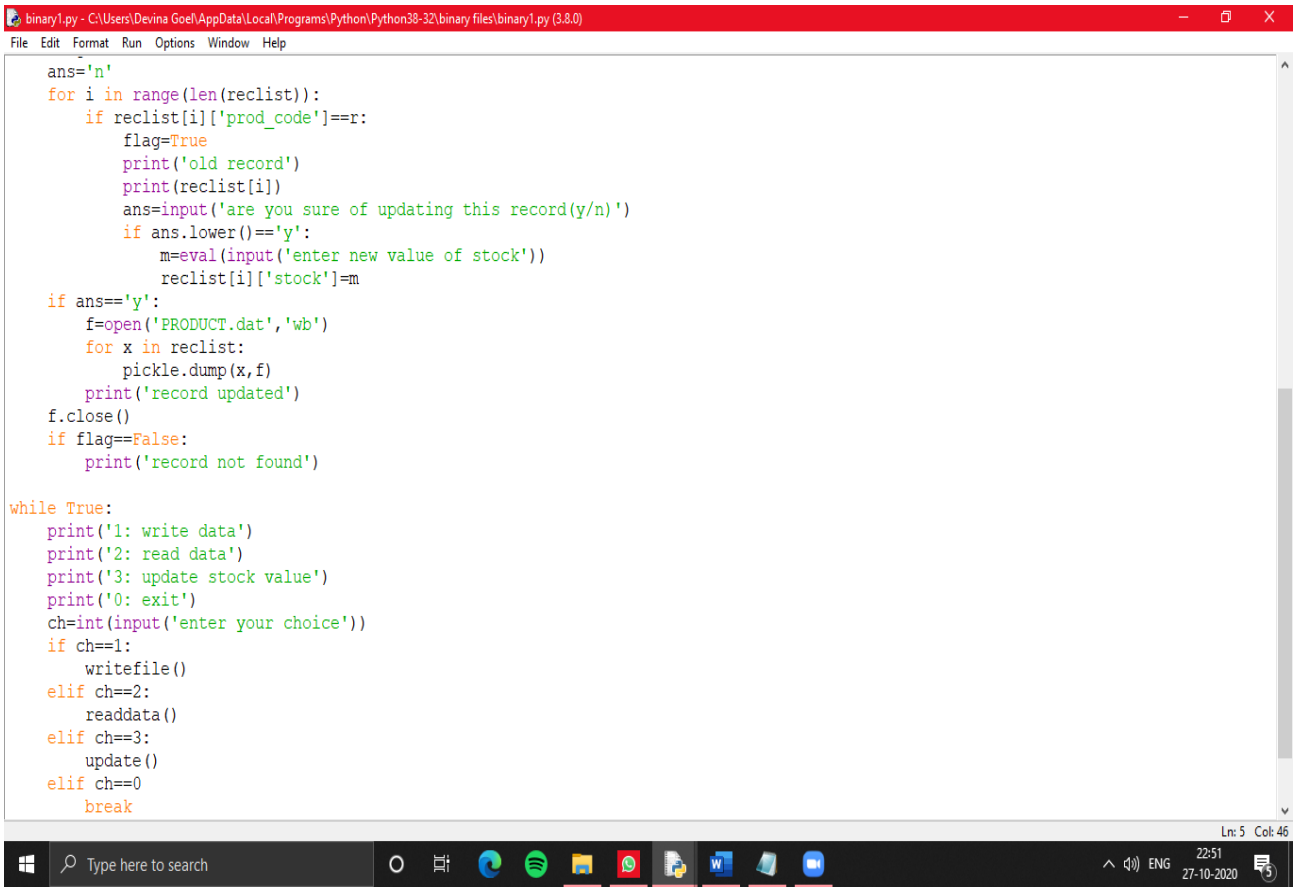
• to display all records

• to update the file with a new value of stock. The stock and the product_code, whose stock is to be updated, are to be input during the execution of the function

Code:



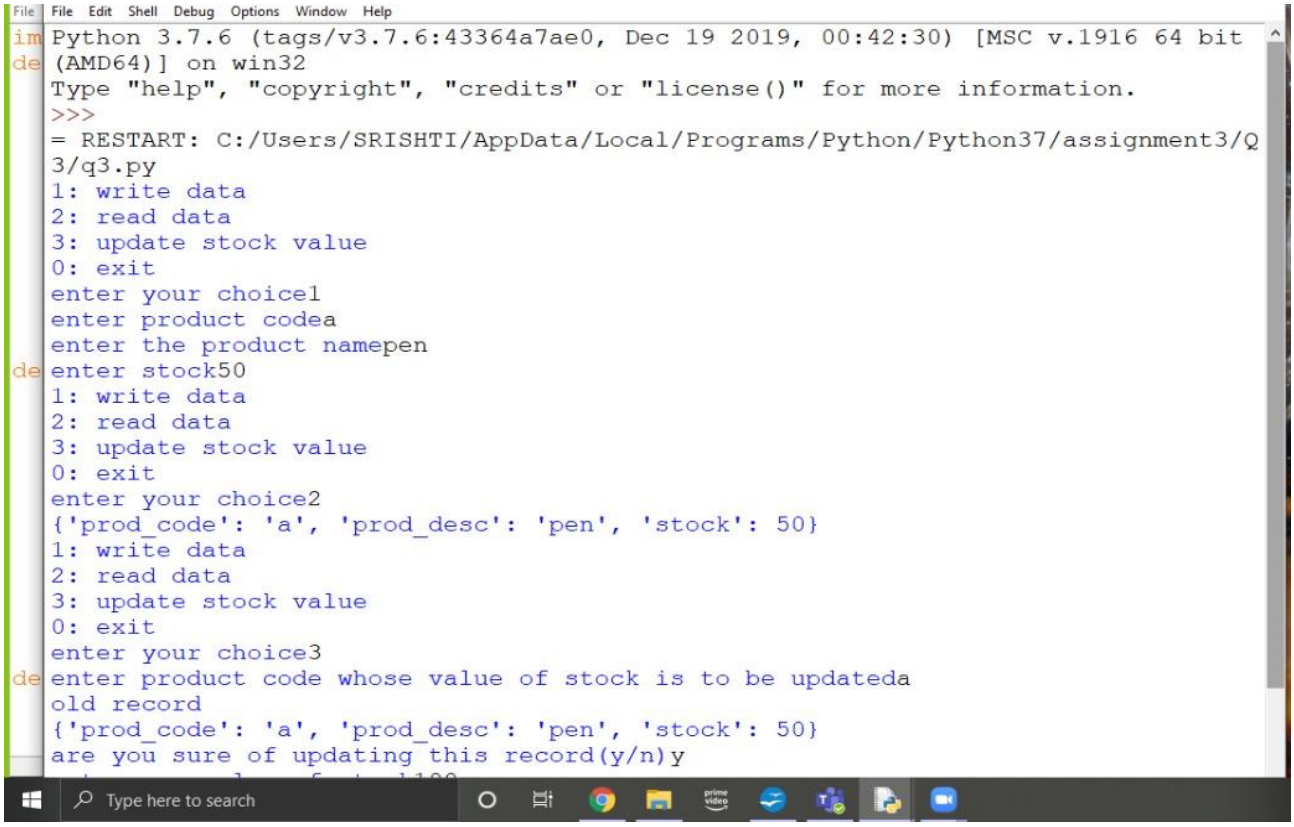
```
import pickle
def writefile():
    d={}
    f=open('PRODUCT.dat','ab')
    d['prod_code']=input('enter product code')
    d['prod_desc']=input('enter the product name')
    d['stock']=int(input('enter stock'))
    pickle.dump(d,f)
    f.close()
def readdata():
    f=open('PRODUCT.dat','rb')
    while(True):
        try:
            obj=pickle.load(f)
            print(obj)
        except EOFError:
            f.close()
            break
def update():
    f=open('PRODUCT.dat','rb')
    reclist=[]
    r=int(input('enter product code whose value of stock is to be updated'))
    while True:
        try:
            rec=pickle.load(f)
            reclist.append(rec)
        except EOFError:
            break
    f.close()
    flag=False
    ans='n'
    for i in range(len(reclist)):
        if reclist[i]['prod_code']==r:
```

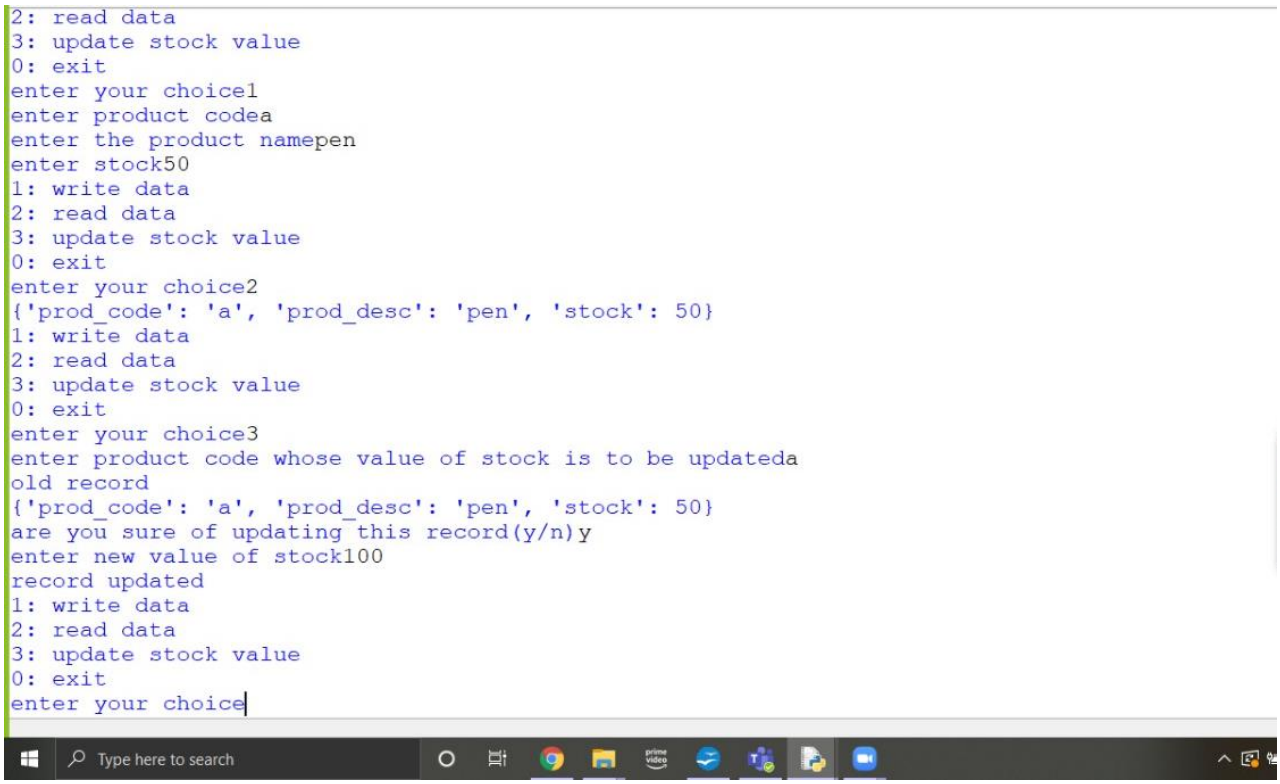


```
    ans='n'
    for i in range(len(reclist)):
        if reclist[i]['prod_code']==r:
            flag=True
            print('old record')
            print(reclist[i])
            ans=input('are you sure of updating this record(y/n)')
            if ans.lower()=='y':
                m=eval(input('enter new value of stock'))
                reclist[i]['stock']=m
    if ans=='y':
        f=open('PRODUCT.dat','wb')
        for x in reclist:
            pickle.dump(x,f)
        print('record updated')
    f.close()
    if flag==False:
        print('record not found')

while True:
    print('1: write data')
    print('2: read data')
    print('3: update stock value')
    print('0: exit')
    ch=int(input('enter your choice'))
    if ch==1:
        writefile()
    elif ch==2:
        readdata()
    elif ch==3:
        update()
    elif ch==0
        break
```

Output:


File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/SRISHTI/AppData/Local/Programs/Python/Python37/assignment3/Q3/q3.py
1: write data
2: read data
3: update stock value
0: exit
enter your choice1
enter product codea
enter the product namepen
enter stock50
1: write data
2: read data
3: update stock value
0: exit
enter your choice2
{'prod_code': 'a', 'prod_desc': 'pen', 'stock': 50}
1: write data
2: read data
3: update stock value
0: exit
enter your choice3
enter product code whose value of stock is to be updateda
old record
{'prod_code': 'a', 'prod_desc': 'pen', 'stock': 50}
are you sure of updating this record(y/n)y
Type here to search


2: read data
3: update stock value
0: exit
enter your choice1
enter product codea
enter the product namepen
enter stock50
1: write data
2: read data
3: update stock value
0: exit
enter your choice2
{'prod_code': 'a', 'prod_desc': 'pen', 'stock': 50}
1: write data
2: read data
3: update stock value
0: exit
enter your choice3
enter product code whose value of stock is to be updateda
old record
{'prod_code': 'a', 'prod_desc': 'pen', 'stock': 50}
are you sure of updating this record(y/n)y
enter new value of stock100
record updated
1: write data
2: read data
3: update stock value
0: exit
enter your choice
Type here to search

Question 17:

Aim:

Given a binary file "STUQ2.DAT", containing records of the following type:

[S_Admno, S_Name, Percentage]

Where these three values are:

S_Admno –Admission Number of student (string)

S_Name –Name of student (string)

Percentage –Marks percentage of student (float)

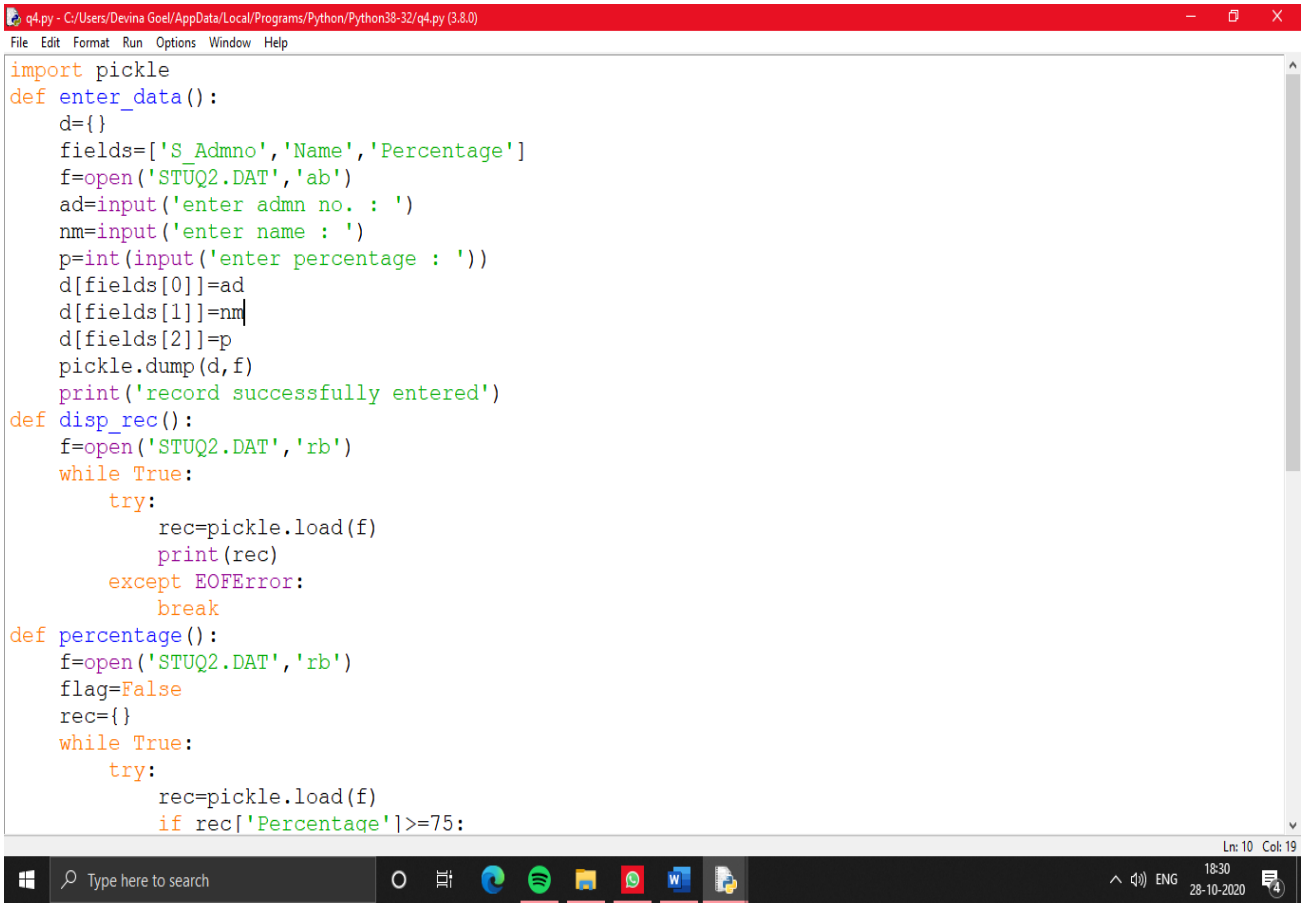
Write a menu driven program using functions

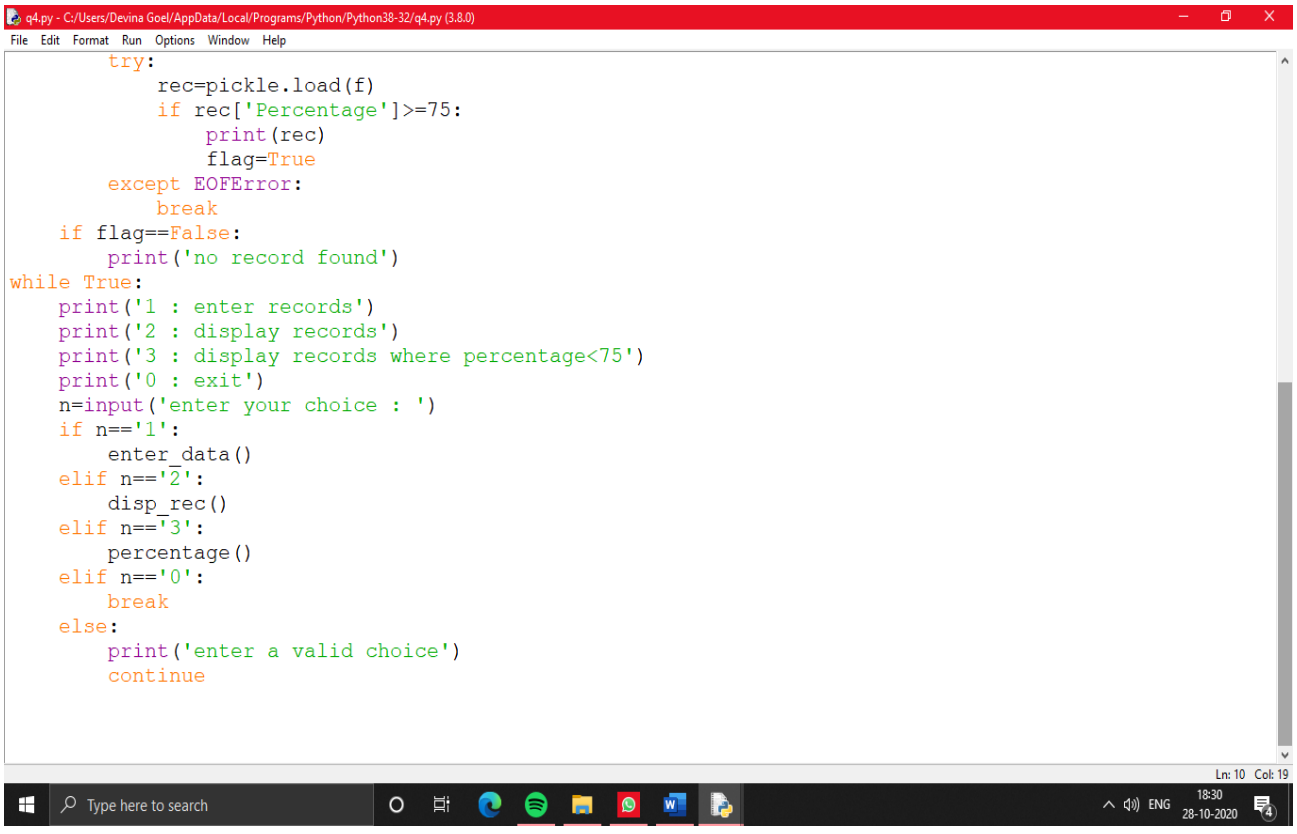
• to enter records

• to display all records

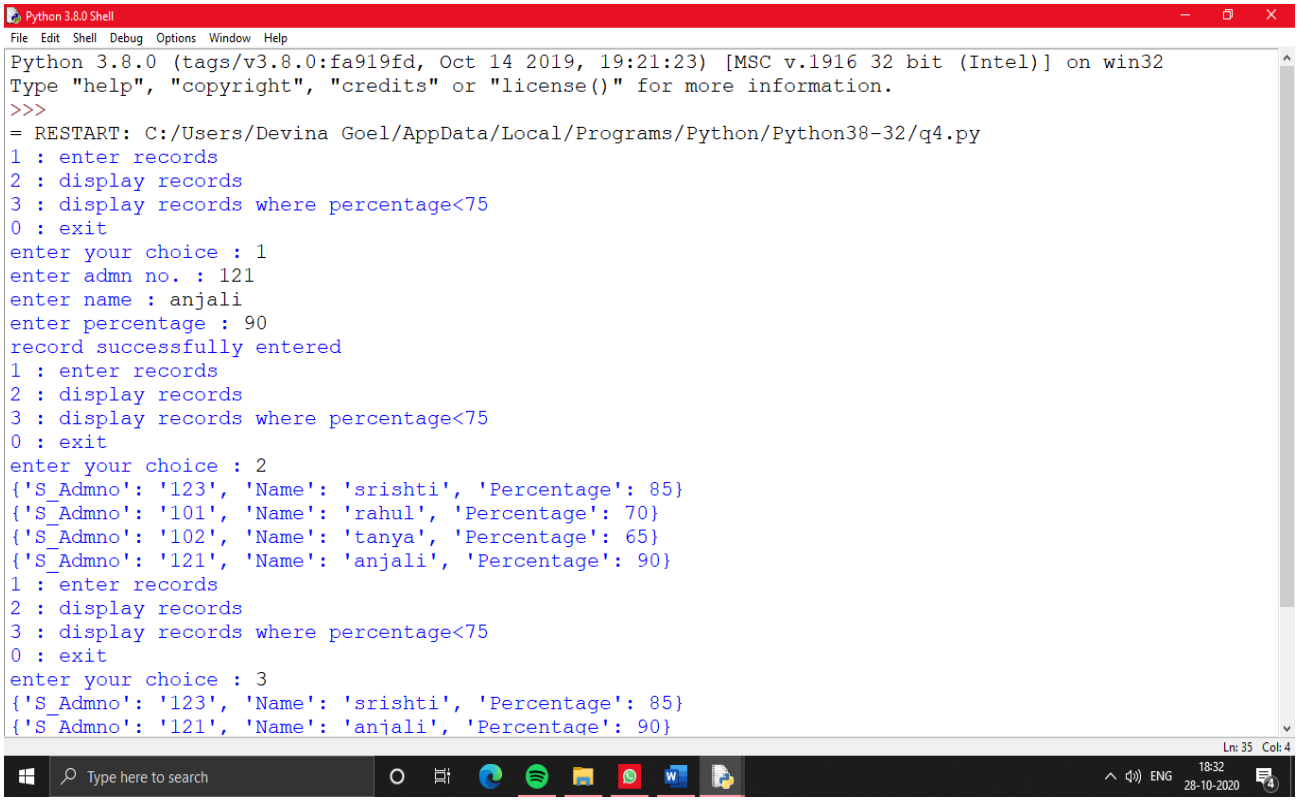
• to read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75

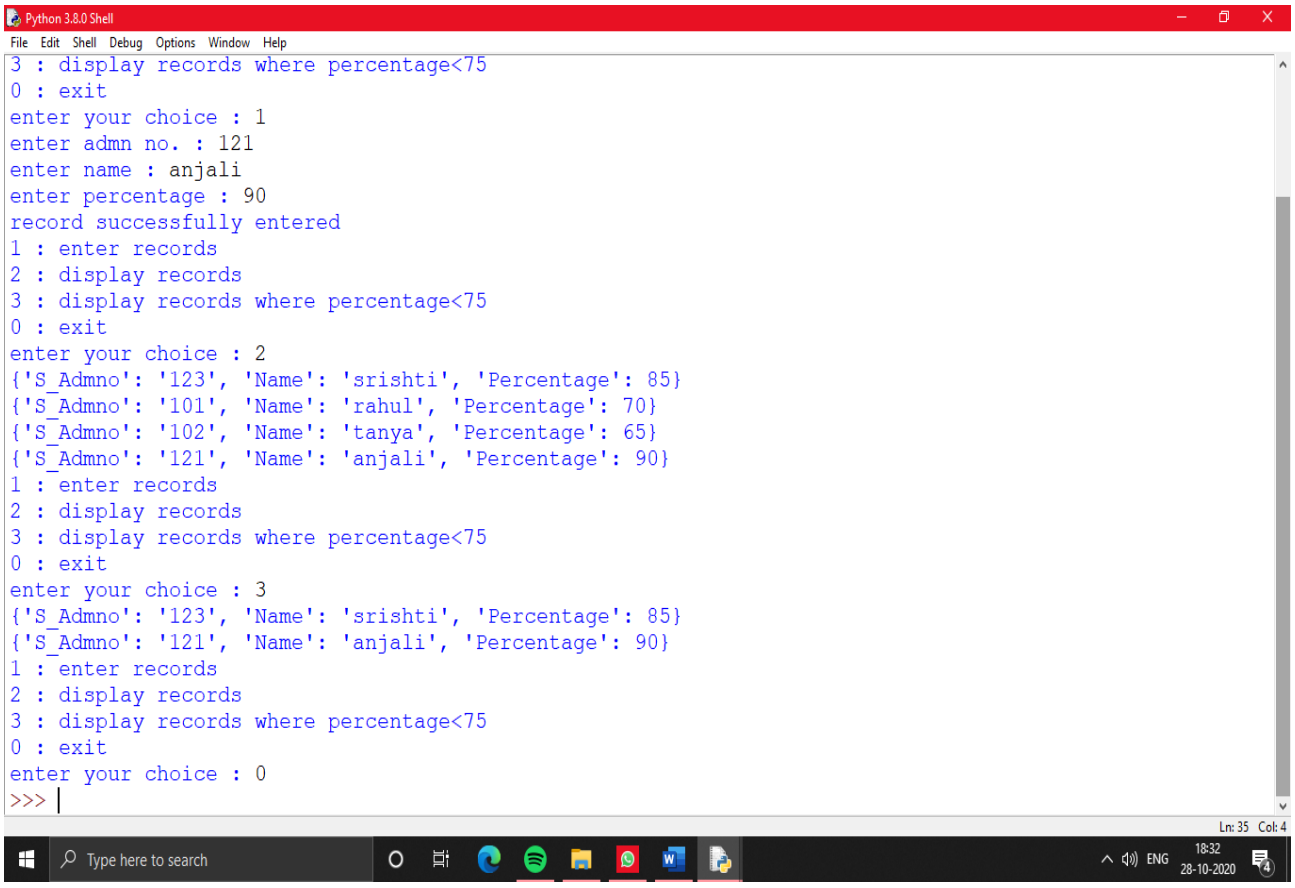
Code:


q4.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q4.py (3.8.0)
File Edit Format Run Options Window Help
import pickle
def enter_data():
d={}
fields=['S_Admno','Name','Percentage']
f=open('STUQ2.DAT','ab')
ad=input('enter admn no. : ')
nm=input('enter name : ')
p=int(input('enter percentage : '))
d[fields[0]]=ad
d[fields[1]]=nm
d[fields[2]]=p
pickle.dump(d,f)
print('record successfully entered')
def disp_rec():
f=open('STUQ2.DAT','rb')
while True:
try:
rec=pickle.load(f)
print(rec)
except EOFError:
break
def percentage():
f=open('STUQ2.DAT','rb')
flag=False
rec={}
while True:
try:
rec=pickle.load(f)
if rec['Percentage']>=75:
Ln: 10 Col: 19
Type here to search
ENG
18:30
28-10-2020


q4.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q4.py (3.8.0)
File Edit Format Run Options Window Help
try:
rec=pickle.load(f)
if rec['Percentage']>=75:
print(rec)
flag=True
except EOFError:
break
if flag==False:
print('no record found')
while True:
print('1 : enter records')
print('2 : display records')
print('3 : display records where percentage<75')
print('0 : exit')
n=input('enter your choice : ')
if n=='1':
enter_data()
elif n=='2':
disp_rec()
elif n=='3':
percentage()
elif n=='0':
break
else:
print('enter a valid choice')
continue
Ln: 10 Col: 19
Type here to search
ENG
18:30
28-10-2020

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q4.py
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 1
enter admn no. : 121
enter name : anjali
enter percentage : 90
record successfully entered
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 2
{'S_Admno': '123', 'Name': 'srishti', 'Percentage': 85}
{'S_Admno': '101', 'Name': 'rahul', 'Percentage': 70}
{'S_Admno': '102', 'Name': 'tanya', 'Percentage': 65}
{'S_Admno': '121', 'Name': 'anjali', 'Percentage': 90}
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 3
{'S_Admno': '123', 'Name': 'srishti', 'Percentage': 85}
{'S_Admno': '121', 'Name': 'anjali', 'Percentage': 90}
Ln: 35 Col: 4
Type here to search
ENG
18:32
28-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
3 : display records where percentage<75
0 : exit
enter your choice : 1
enter admn no. : 121
enter name : anjali
enter percentage : 90
record successfully entered
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 2
{'S_Admno': '123', 'Name': 'srishti', 'Percentage': 85}
{'S_Admno': '101', 'Name': 'rahul', 'Percentage': 70}
{'S_Admno': '102', 'Name': 'tanya', 'Percentage': 65}
{'S_Admno': '121', 'Name': 'anjali', 'Percentage': 90}
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 3
{'S_Admno': '123', 'Name': 'srishti', 'Percentage': 85}
{'S_Admno': '121', 'Name': 'anjali', 'Percentage': 90}
1 : enter records
2 : display records
3 : display records where percentage<75
0 : exit
enter your choice : 0
>>>
Ln: 35 Col: 4
Type here to search
ENG
18:32
28-10-2020

Question 18:

Aim:

Assuming the tuple Vehicle as follows:

(vehicletype, no_of_wheels)

where vehicletype is a string and no_of_wheels is an integer.

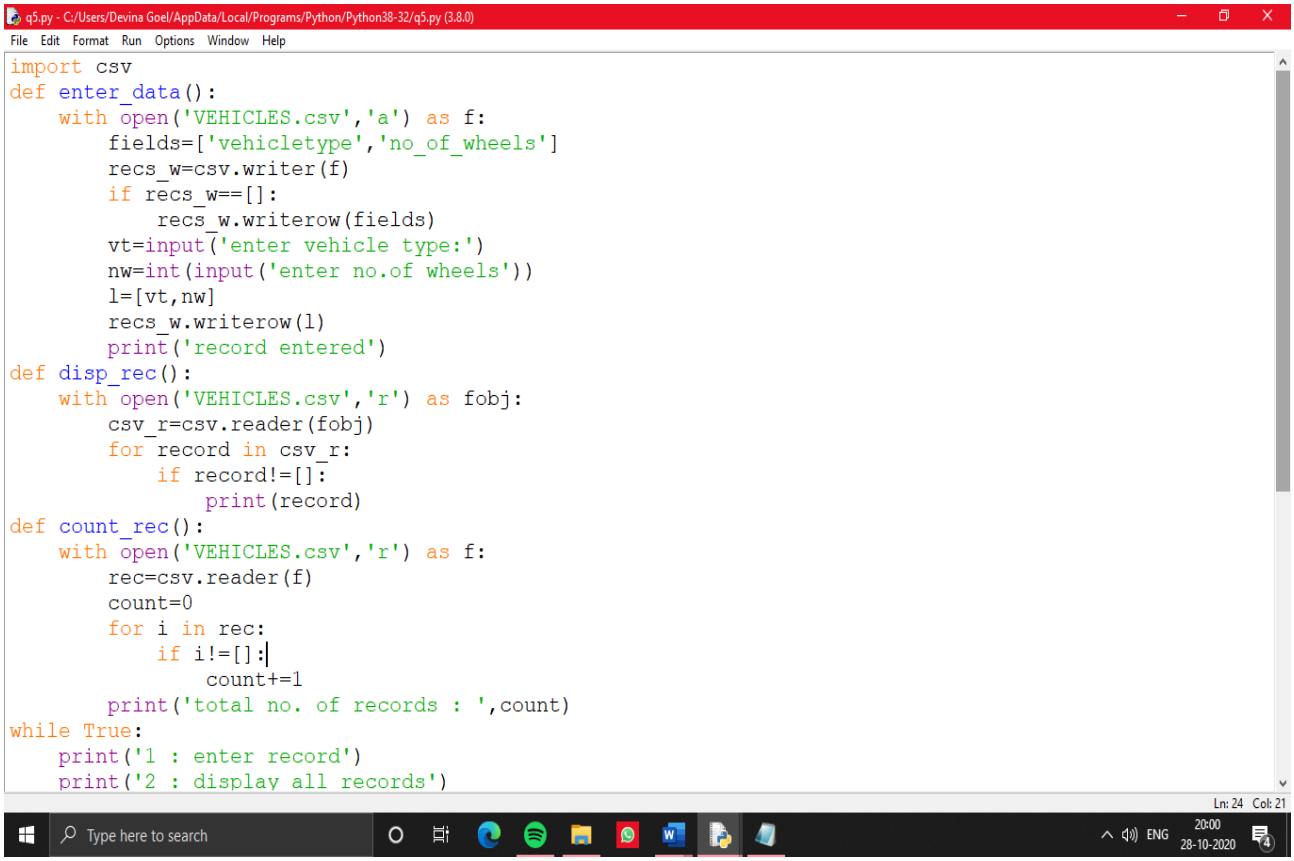
Write a menu driven program using functions

• to enter records

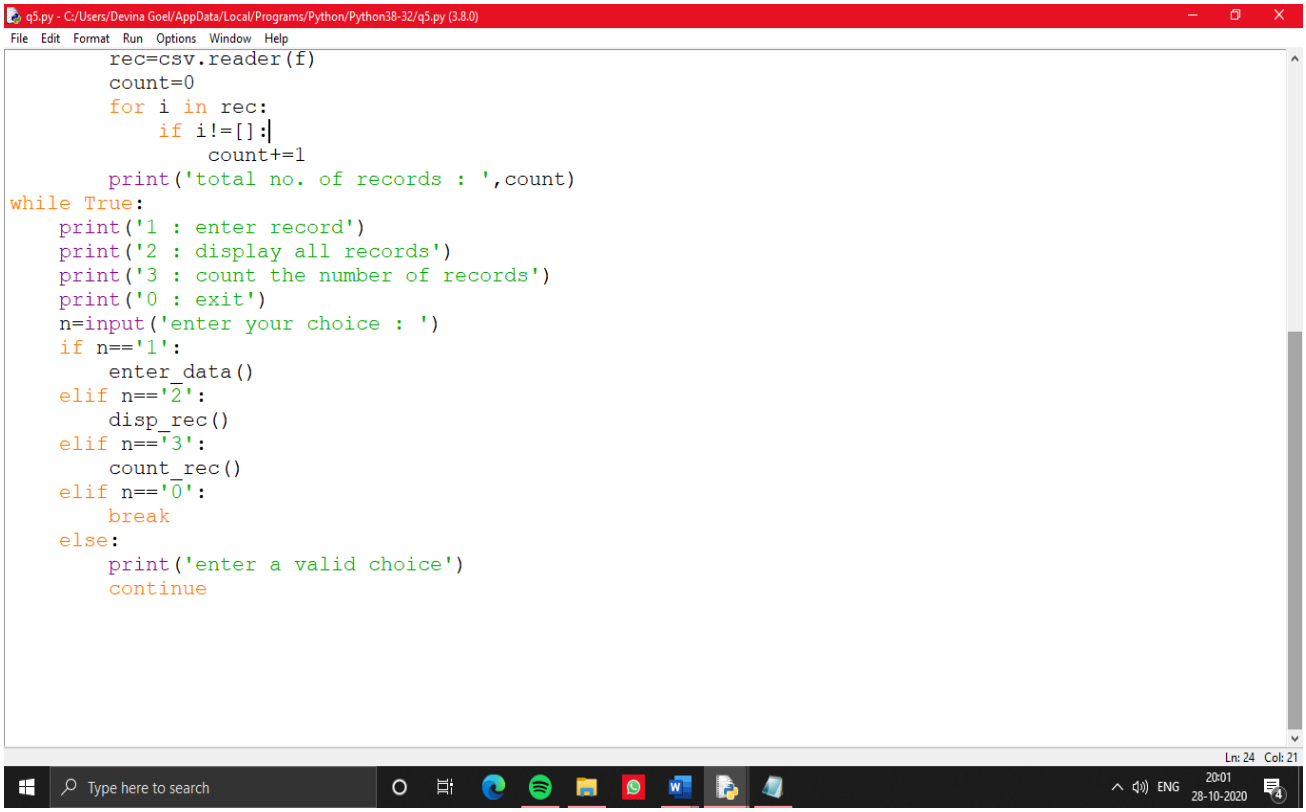
• to display all records

• to count and display the number of records present in the file.

Code:

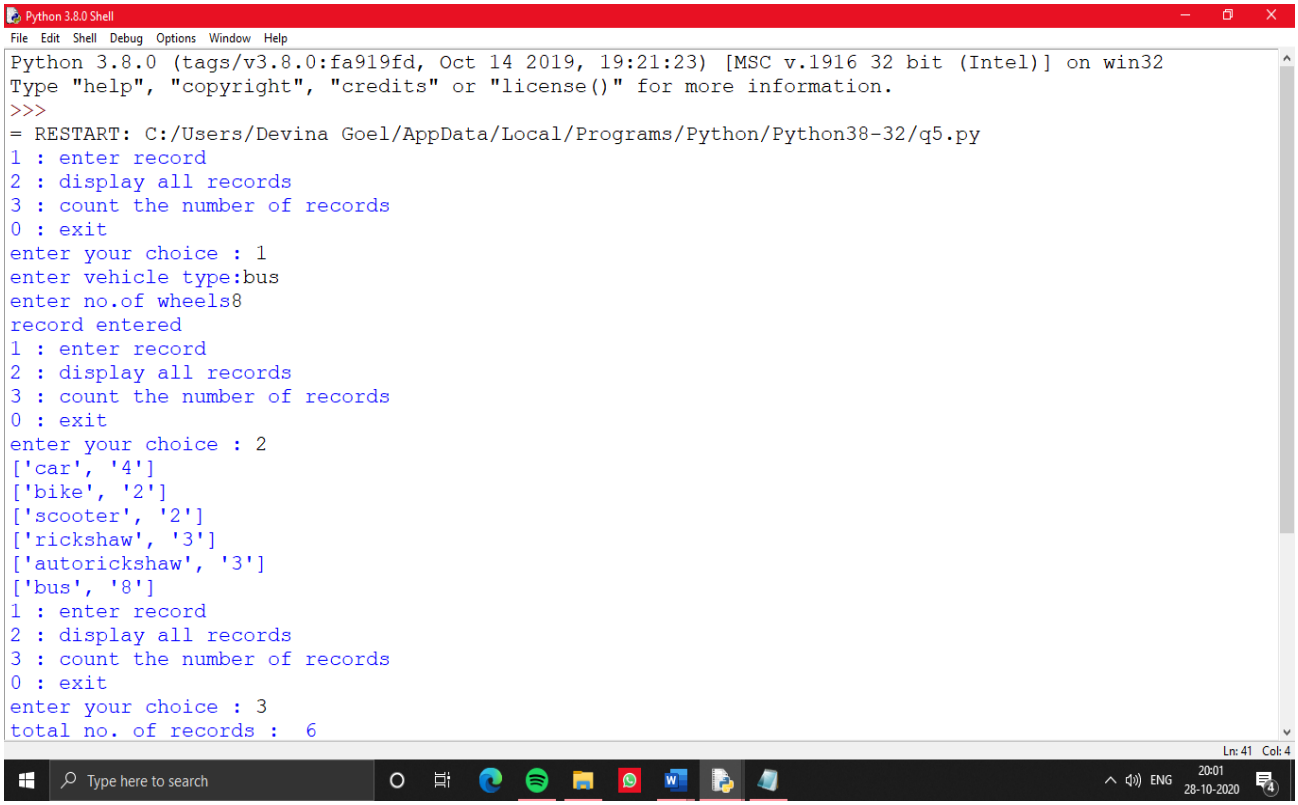


```
q5.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q5.py (3.8.0)
File  Edit  Format  Run  Options  Window  Help
import csv
def enter_data():
    with open('VEHICLES.csv','a') as f:
        fields=['vehicletype','no_of_wheels']
        recs_w=csv.writer(f)
        if recs_w==[]:
            recs_w.writerow(fields)
        vt=input('enter vehicle type:')
        nw=int(input('enter no.of wheels'))
        l=[vt,nw]
        recs_w.writerow(l)
        print('record entered')
def disp_rec():
    with open('VEHICLES.csv','r') as fobj:
        csv_r=csv.reader(fobj)
        for record in csv_r:
            if record!=[]:
                print(record)
def count_rec():
    with open('VEHICLES.csv','r') as f:
        rec=csv.reader(f)
        count=0
        for i in rec:
            if i!=[]:
                count+=1
        print('total no. of records : ',count)
while True:
    print('1 : enter record')
    print('2 : display all records')
```



```
q5.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q5.py (3.8.0)
File  Edit  Format  Run  Options  Window  Help
        rec=csv.reader(f)
        count=0
        for i in rec:
            if i!=[]:
                count+=1
        print('total no. of records : ',count)
while True:
    print('1 : enter record')
    print('2 : display all records')
    print('3 : count the number of records')
    print('0 : exit')
    n=input('enter your choice : ')
    if n=='1':
        enter_data()
    elif n=='2':
        disp_rec()
    elif n=='3':
        count_rec()
    elif n=='0':
        break
    else:
        print('enter a valid choice')
        continue
```

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/q5.py
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 1
enter vehicle type:bus
enter no.of wheels8
record entered
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 2
['car', '4']
['bike', '2']
['scooter', '2']
['rickshaw', '3']
['autorickshaw', '3']
['bus', '8']
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 3
total no. of records : 6
Ln: 41 Col: 4
Type here to search
ENG
20:01
28-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 2
['car', '4']
['bike', '2']
['scooter', '2']
['rickshaw', '3']
['autorickshaw', '3']
['bus', '8']
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 3
total no. of records : 6
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 4
enter a valid choice
1 : enter record
2 : display all records
3 : count the number of records
0 : exit
enter your choice : 0
>>>
Ln: 41 Col: 4
Type here to search
ENG
20:01
28-10-2020

Question 19:

Aim:

Create a file PRODUCT.CSV.

Sample data of the file is as follows:

```
PID, PNAME, COST, QUANTITY
P1, BRUSH, 50, 200
P2, TOOTHPASTE, 120, 150
P3, COMB, 40, 300
P4, SHEETS, 100, 500
P5, PEN, 10, 250
```

Write a menu driven program using functions

• to add sample data to the file

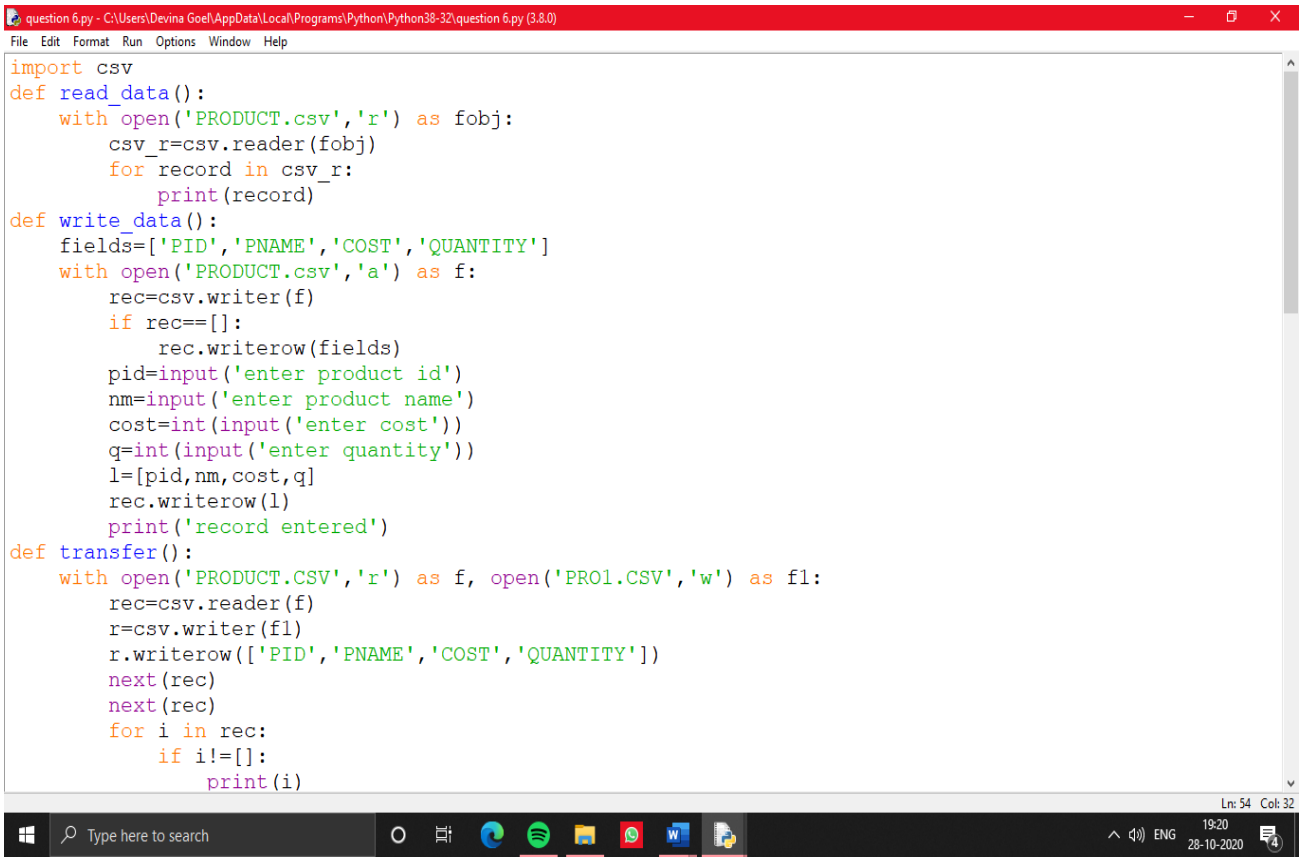
• to display all the records

• to copy/transfer only those records from the file PRODUCT.CSV to another file “PRO1.CSV” whose quantity is more than 150. Also include the first row with headings.

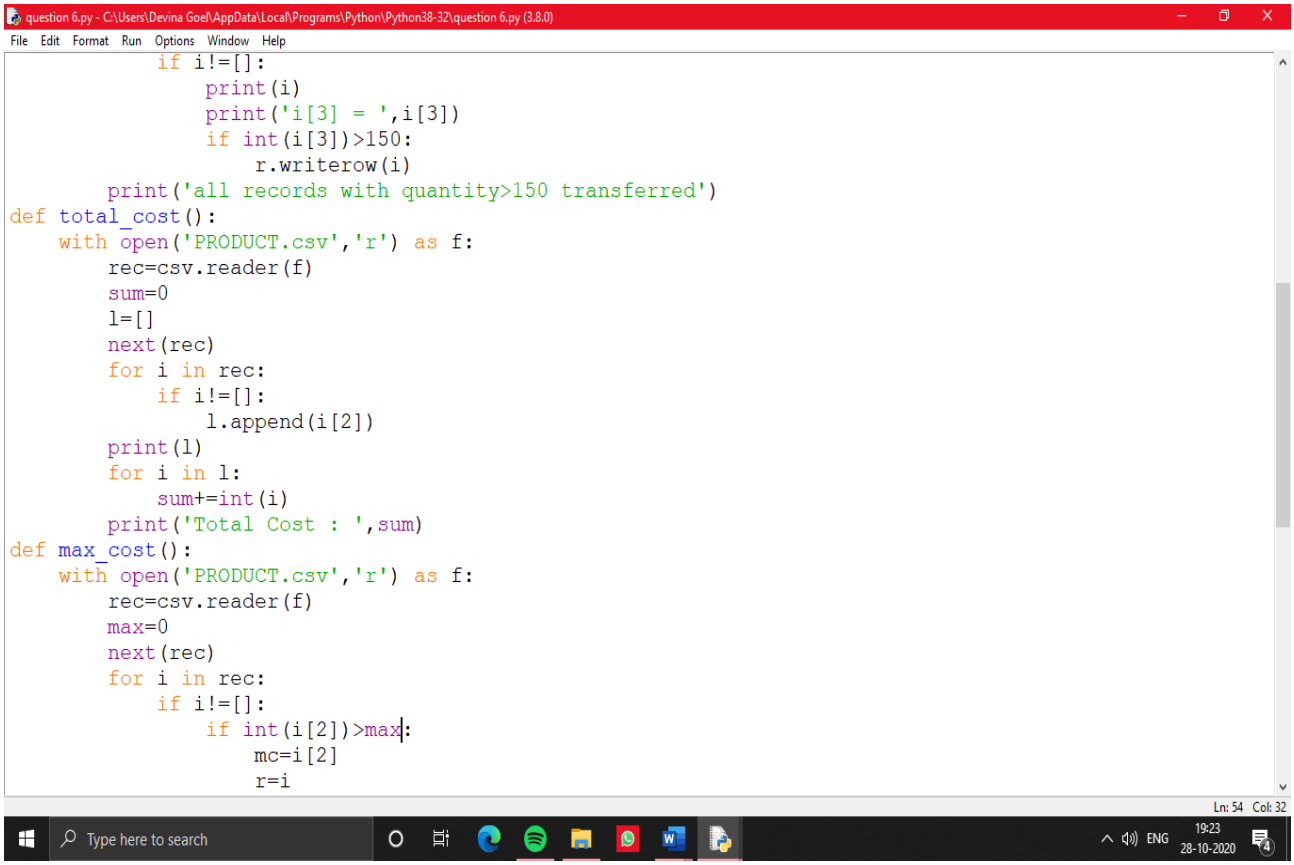
• To display the total cost of all the products of the file PRODUCT.CSV

• To search and display the record of that product from the file product.csv which has maximum cost.

Code:



```
question 6.py - C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 6.py (3.8.0)
File  Edit  Format  Run  Options  Window  Help
import csv
def read_data():
    with open('PRODUCT.csv','r') as fobj:
        csv_r=csv.reader(fobj)
        for record in csv_r:
            print(record)
def write_data():
    fields=['PID','PNAME','COST','QUANTITY']
    with open('PRODUCT.csv','a') as f:
        rec=csv.writer(f)
        if rec==[]:
            rec.writerow(fields)
        pid=input('enter product id')
        nm=input('enter product name')
        cost=int(input('enter cost'))
        q=int(input('enter quantity'))
        l=[pid,nm,cost,q]
        rec.writerow(l)
        print('record entered')
def transfer():
    with open('PRODUCT.CSV','r') as f, open('PRO1.CSV','w') as f1:
        rec=csv.reader(f)
        r=csv.writer(f1)
        r.writerow(['PID','PNAME','COST','QUANTITY'])
        next(rec)
        next(rec)
        for i in rec:
            if i!=[]:
                print(i)
Ln: 54  Col: 32
Type here to search
ENG 19:20 28-10-2020
```



```
question 6.py - C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 6.py (3.8.0)
File  Edit  Format  Run  Options  Window  Help
            if i!=[]:
                print(i)
                print('i[3] = ',i[3])
                if int(i[3])>150:
                    r.writerow(i)
        print('all records with quantity>150 transferred')
def total_cost():
    with open('PRODUCT.csv','r') as f:
        rec=csv.reader(f)
        sum=0
        l=[]
        next(rec)
        for i in rec:
            if i!=[]:
                l.append(i[2])
        print(l)
        for i in l:
            sum+=int(i)
        print('Total Cost : ',sum)
def max_cost():
    with open('PRODUCT.csv','r') as f:
        rec=csv.reader(f)
        max=0
        next(rec)
        for i in rec:
            if i!=[]:
                if int(i[2])>max:
                    mc=i[2]
                    r=i
Ln: 54  Col: 32
Type here to search
ENG 19:23 28-10-2020
```

question 6.py - C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 6.py (3.8.0)

File Edit Format Run Options Window Help

```
            if i!=[]:
                if int(i[2])>max:
                    mc=i[2]
                    r=i
        print('product with maximum cost : ')
        print(r)
while True:
    print('1 : enter record')
    print('2 : display all records')
    print('3 : transfer records where quantity>150')
    print('4 : display total cost')
    print('5 : display record with maximum cost')
    print('0 : exit')
    n=input('enter your choice : ')
    if n=='1':
        write_data()
    elif n=='2':
        read_data()
    elif n=='3':
        transfer()
    elif n=='4':
        total_cost()
    elif n=='5':
        max_cost()
    elif n=='0':
        break
    else:
        print('enter a valid choice')
        continue
```

Ln: 54 Col: 32

Type here to search ENG 19:22 28-10-2020

Output:

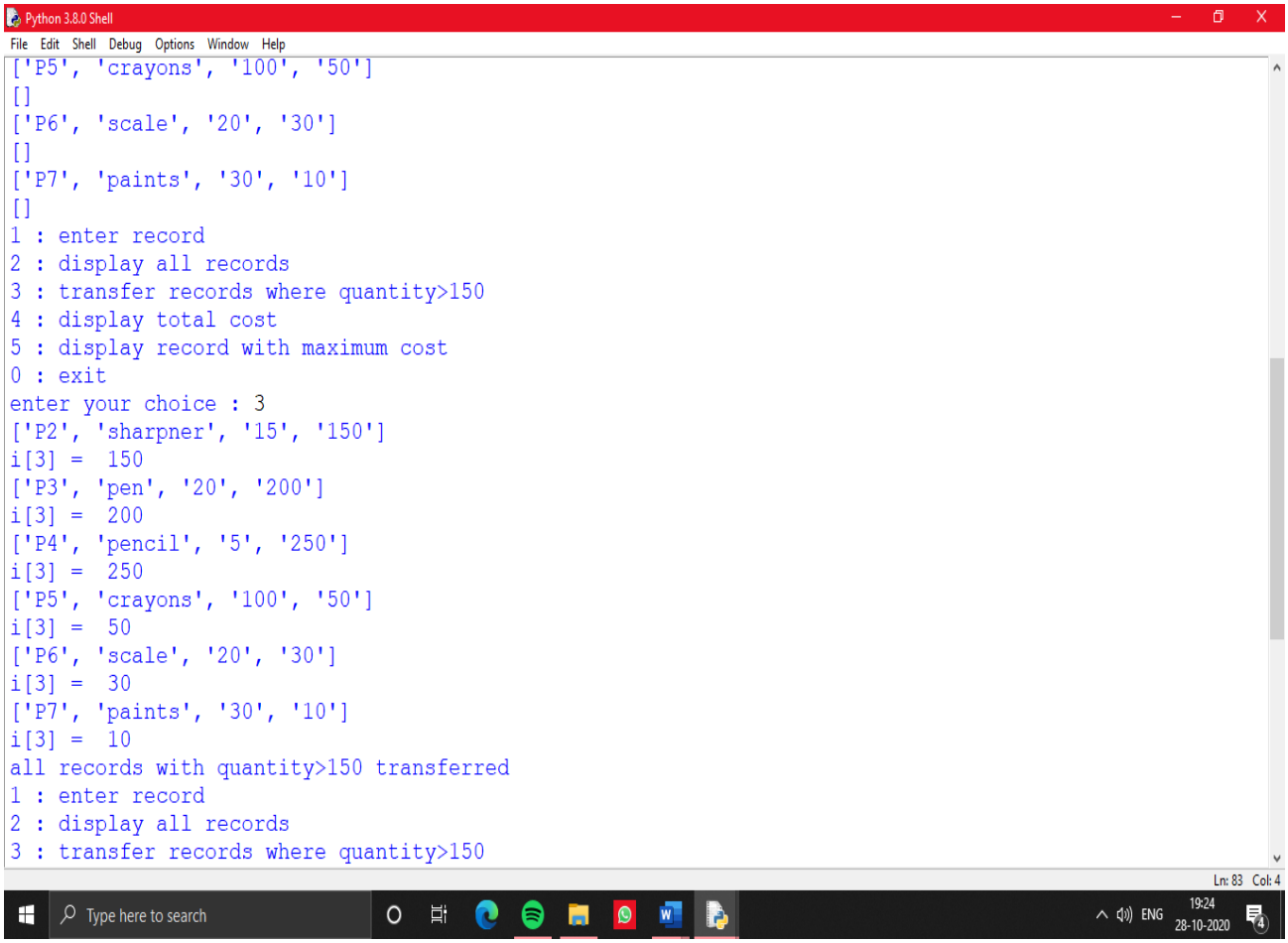
Python 3.8.0 Shell

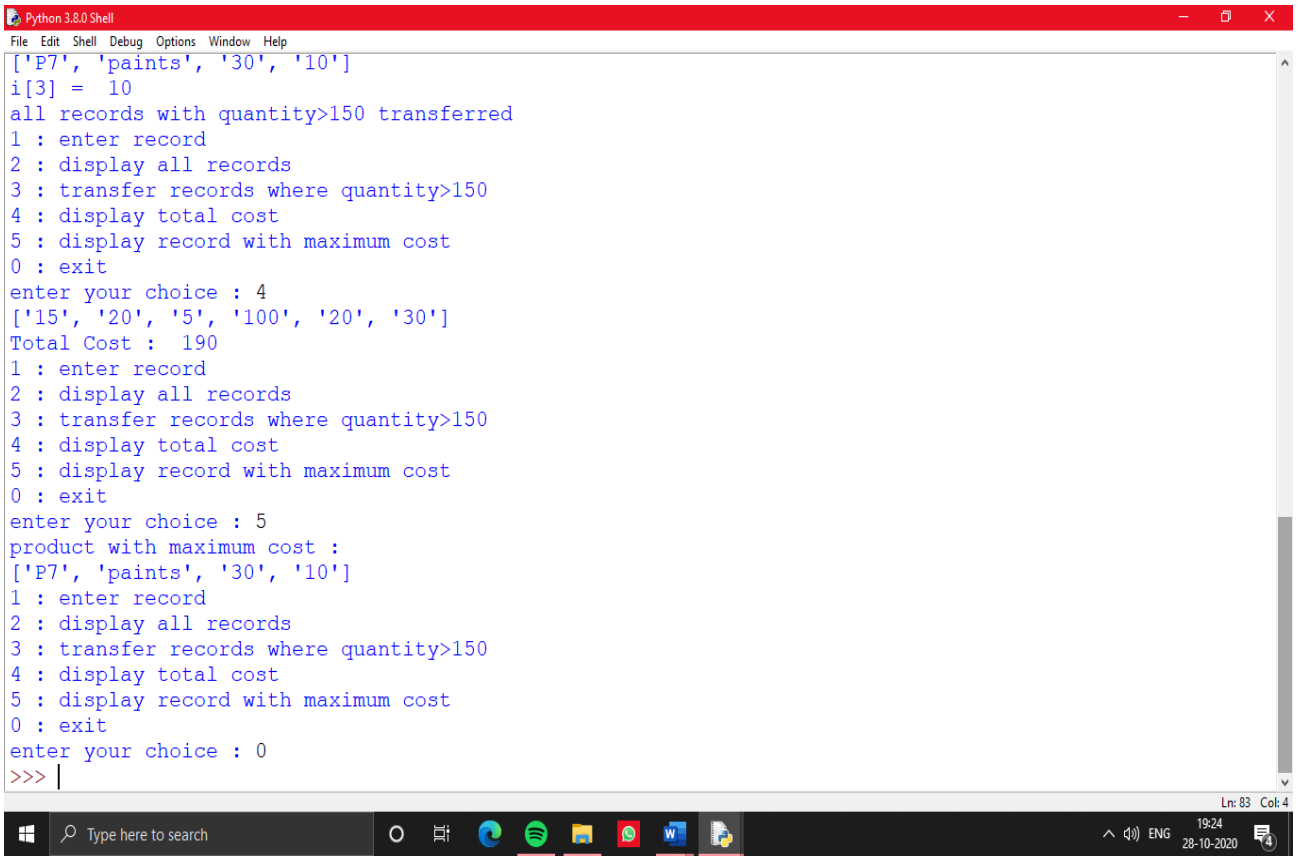
File Edit Shell Debug Options Window Help

```
= RESTART: C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 6.py
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 1
enter product idP7
enter product namepaints
enter cost30
enter quantity10
record entered
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 2
['P1', 'eraser', '10', '200']
[]
['P2', 'sharpner', '15', '150']
[]
['P3', 'pen', '20', '200']
[]
['P4', 'pencil', '5', '250']
[]
['P5', 'crayons', '100', '50']
```

Ln: 83 Col: 4

Type here to search ENG 19:23 28-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
['P5', 'crayons', '100', '50']
[]
['P6', 'scale', '20', '30']
[]
['P7', 'paints', '30', '10']
[]
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 3
['P2', 'sharpner', '15', '150']
i[3] = 150
['P3', 'pen', '20', '200']
i[3] = 200
['P4', 'pencil', '5', '250']
i[3] = 250
['P5', 'crayons', '100', '50']
i[3] = 50
['P6', 'scale', '20', '30']
i[3] = 30
['P7', 'paints', '30', '10']
i[3] = 10
all records with quantity>150 transferred
1 : enter record
2 : display all records
3 : transfer records where quantity>150
Ln: 83 Col: 4
Type here to search
ENG
19:24
28-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
['P7', 'paints', '30', '10']
i[3] = 10
all records with quantity>150 transferred
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 4
['15', '20', '5', '100', '20', '30']
Total Cost : 190
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 5
product with maximum cost :
['P7', 'paints', '30', '10']
1 : enter record
2 : display all records
3 : transfer records where quantity>150
4 : display total cost
5 : display record with maximum cost
0 : exit
enter your choice : 0
>>>
Ln: 83 Col: 4
Type here to search
ENG
19:24
28-10-2020

Question 20:

Aim:

Create a file Tour.csv having headings as follows TID,DESTINATION,DAYS,FARE.

Sample data of file is as follows:

```
TI0, AUSTRALIA, 10,300
T11, AUSTRIA, 15, 750
T12, RAJASTHAN, 10, 700
T13, FRANCE, 12, 650
```

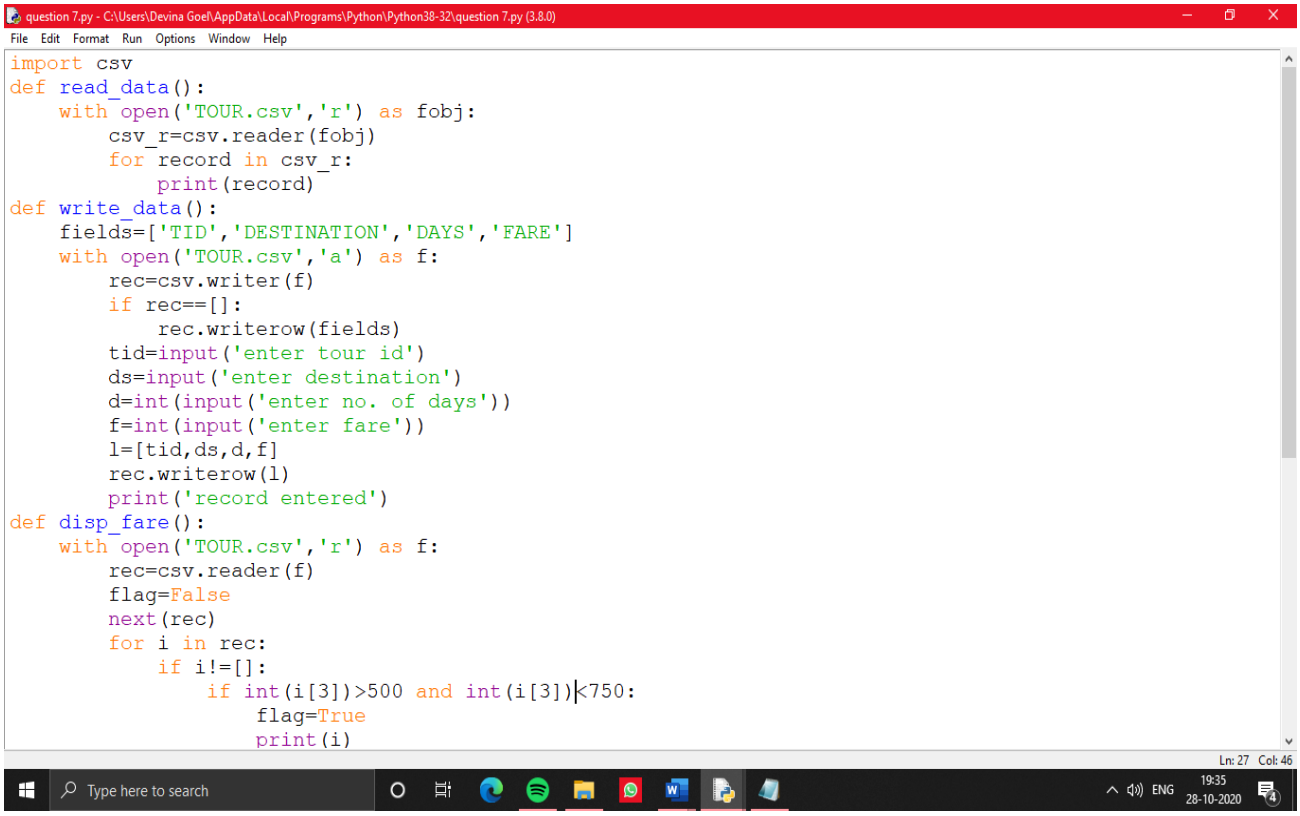
Write a menu driven program using functions

• to add sample data to the file

• to display all the records

• to read the file tour.csv and display the records where fare is between 500 and 750. If no such record is found in the file then display an appropriate message on the screen.

Code:

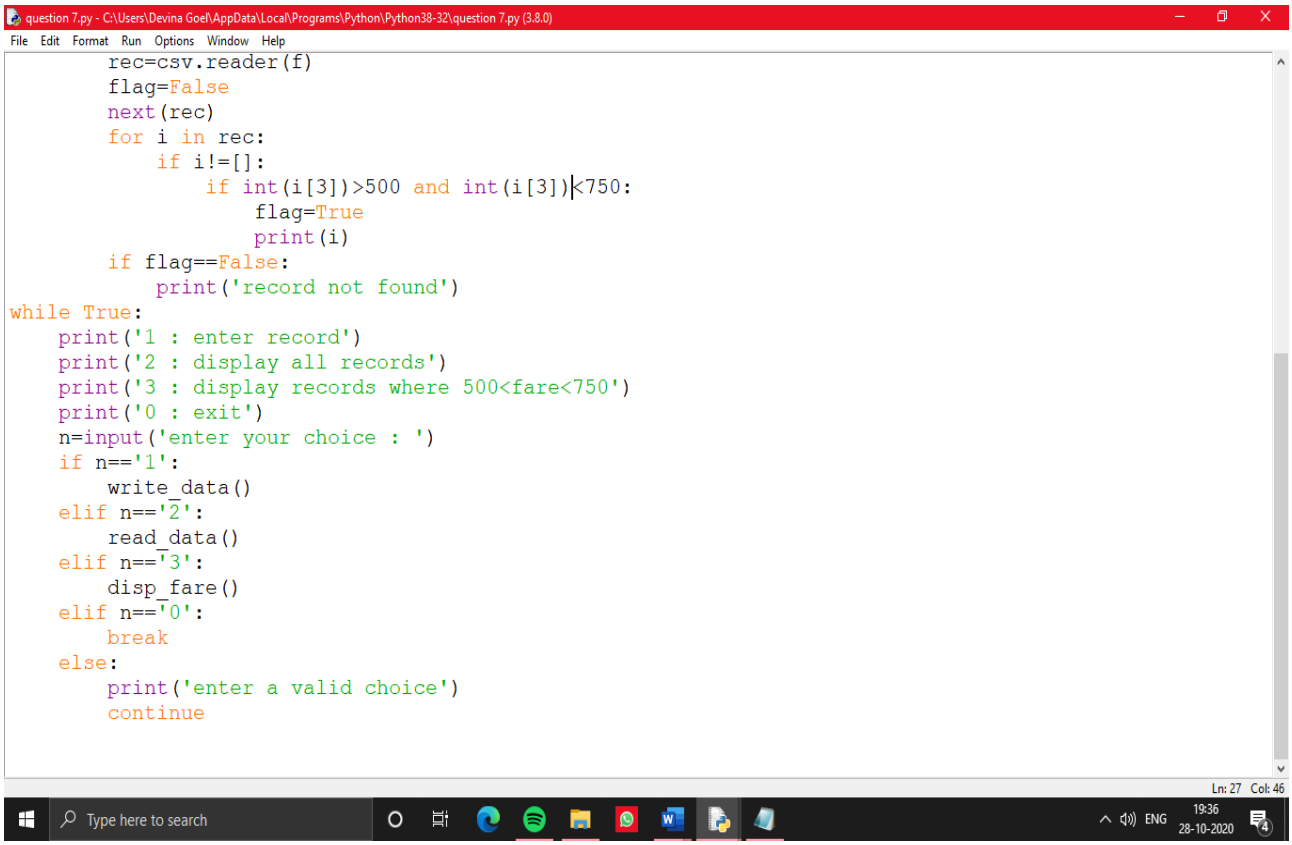


question 7.py - C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 7.py (3.8.0)

File Edit Format Run Options Window Help

```
import csv
def read_data():
    with open('TOUR.csv','r') as fobj:
        csv_r=csv.reader(fobj)
        for record in csv_r:
            print(record)
def write_data():
    fields=['TID','DESTINATION','DAYS','FARE']
    with open('TOUR.csv','a') as f:
        rec=csv.writer(f)
        if rec==[]:
            rec.writerow(fields)
        tid=input('enter tour id')
        ds=input('enter destination')
        d=int(input('enter no. of days'))
        f=int(input('enter fare'))
        l=[tid,ds,d,f]
        rec.writerow(l)
        print('record entered')
def disp_fare():
    with open('TOUR.csv','r') as f:
        rec=csv.reader(f)
        flag=False
        next(rec)
        for i in rec:
            if i!=[]:
                if int(i[3])>500 and int(i[3])<750:
                    flag=True
                    print(i)
```

Ln: 27 Col: 46



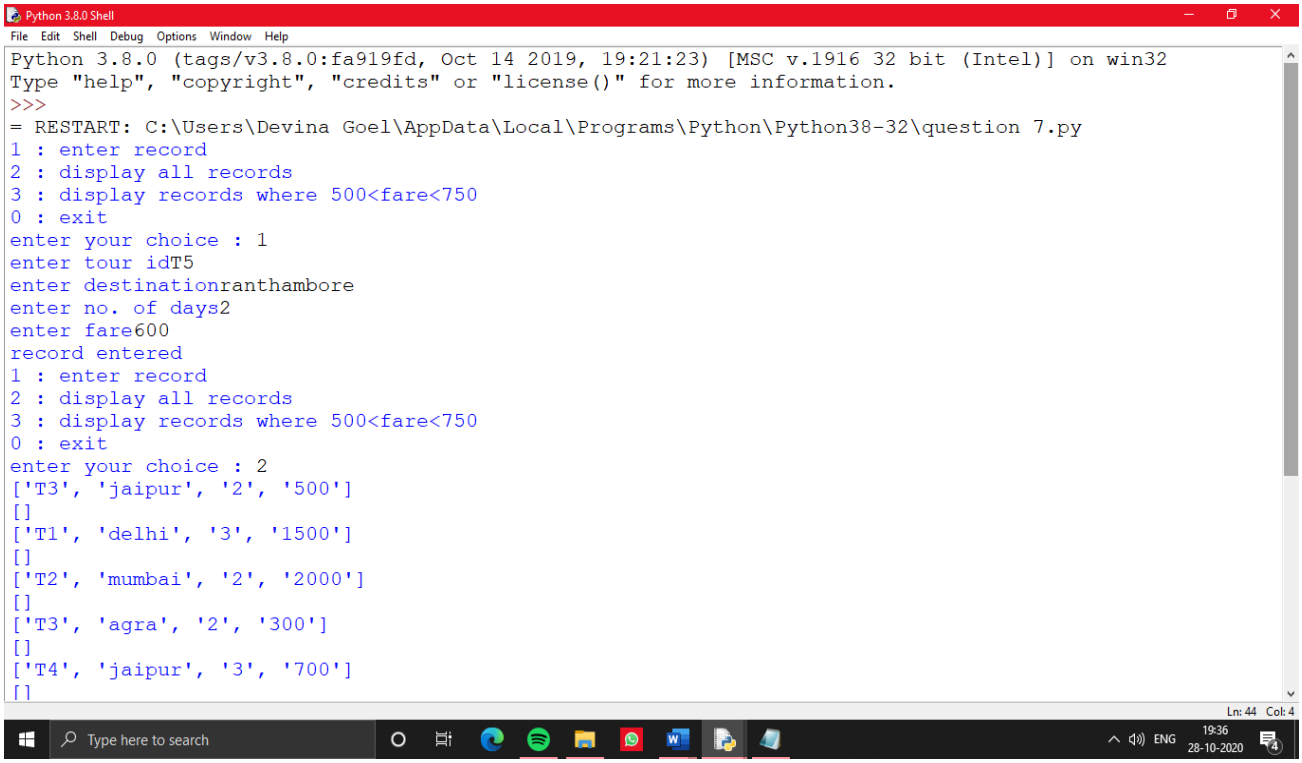
question 7.py - C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 7.py (3.8.0)

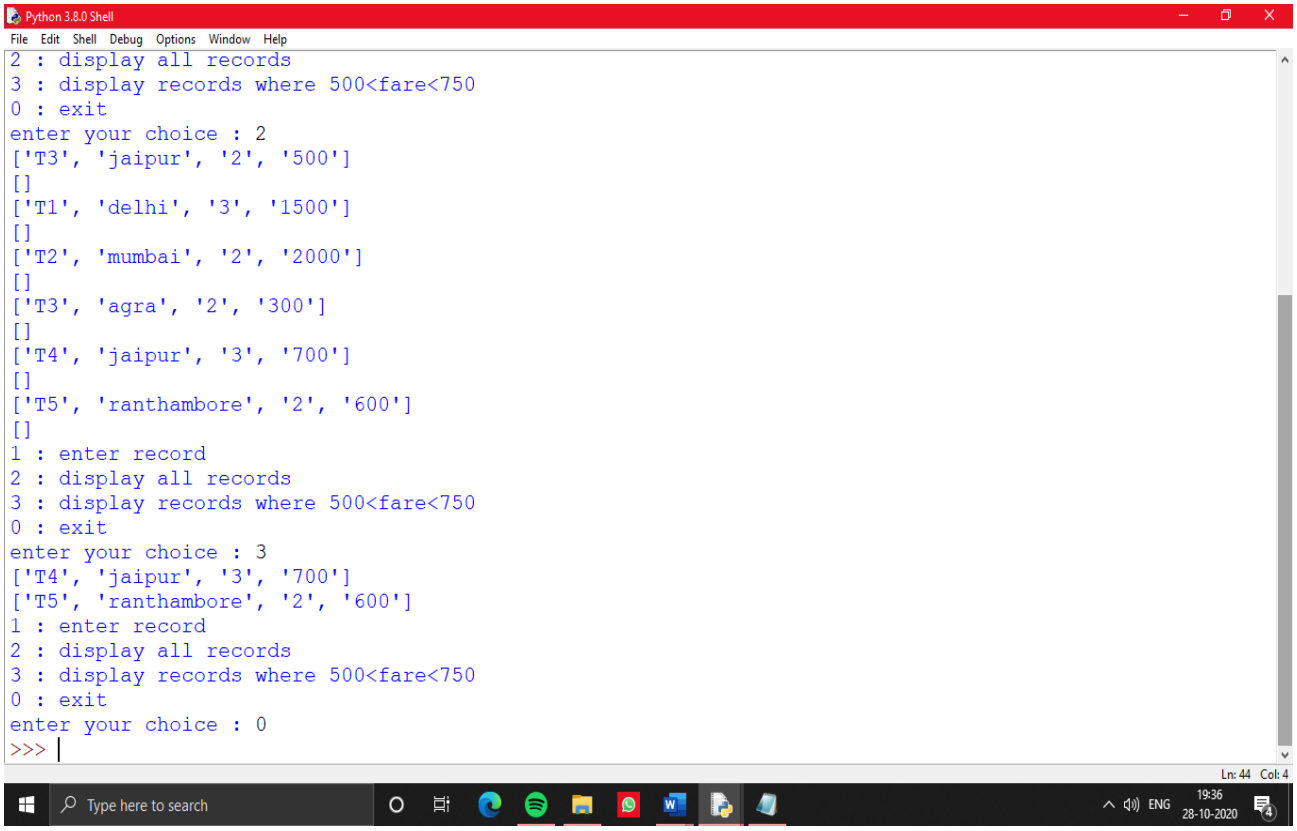
File Edit Format Run Options Window Help

```
        rec=csv.reader(f)
        flag=False
        next(rec)
        for i in rec:
            if i!=[]:
                if int(i[3])>500 and int(i[3])<750:
                    flag=True
                    print(i)
        if flag==False:
            print('record not found')
while True:
    print('1 : enter record')
    print('2 : display all records')
    print('3 : display records where 500<fare<750')
    print('0 : exit')
    n=input('enter your choice : ')
    if n=='1':
        write_data()
    elif n=='2':
        read_data()
    elif n=='3':
        disp_fare()
    elif n=='0':
        break
    else:
        print('enter a valid choice')
        continue
```

Ln: 27 Col: 46

Output:


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Devina Goel\AppData\Local\Programs\Python\Python38-32\question 7.py
1 : enter record
2 : display all records
3 : display records where 500<fare<750
0 : exit
enter your choice : 1
enter tour idT5
enter destinationranthambore
enter no. of days2
enter fare600
record entered
1 : enter record
2 : display all records
3 : display records where 500<fare<750
0 : exit
enter your choice : 2
['T3', 'jaipur', '2', '500']
[]
['T1', 'delhi', '3', '1500']
[]
['T2', 'mumbai', '2', '2000']
[]
['T3', 'agra', '2', '300']
[]
['T4', 'jaipur', '3', '700']
[]
Ln: 44 Col: 4
Type here to search
ENG
19:36
28-10-2020


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
2 : display all records
3 : display records where 500<fare<750
0 : exit
enter your choice : 2
['T3', 'jaipur', '2', '500']
[]
['T1', 'delhi', '3', '1500']
[]
['T2', 'mumbai', '2', '2000']
[]
['T3', 'agra', '2', '300']
[]
['T4', 'jaipur', '3', '700']
[]
['T5', 'ranthambore', '2', '600']
[]
1 : enter record
2 : display all records
3 : display records where 500<fare<750
0 : exit
enter your choice : 3
['T4', 'jaipur', '3', '700']
['T5', 'ranthambore', '2', '600']
1 : enter record
2 : display all records
3 : display records where 500<fare<750
0 : exit
enter your choice : 0
>>>
Ln: 44 Col: 4
Type here to search
ENG
19:36
28-10-2020

Question 21:

Aim:

Write a function in python, MakePush(Package) and MakePop(Package) to add a New Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure. Implement the complete menu driven program.

Code:

csq1.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq1.py (3.8.0)

File Edit Format Run Options Window Help

```
def MakePush(Package):
    a=int(input('enter package title : '))
    Package.append(a)
    print('new package : ',Package)
def MakePop(Package):
    if Package==[]:
        print('stack underflow')
    else:
        n=Package.pop()
        print('Deleted element : ',n)
while True:
    print('1 : Push')
    print('2 : Pop')
    print('0 : Exit')
    m=eval(input('Enter your choice : '))
    if m==1:
        s=eval(input('enter package to be pushed : '))
        MakePush(s)
    elif m==2:
        s=eval(input('enter the package to be popped : '))
        MakePop(s)
    elif m==0:
        break
    else:
        print('please enter a valid choice')
```

Ln: 4 Col: 35

Output:

Python 3.8.0 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq1.py
1 : Push
2 : Pop
0 : Exit
Enter your choice : 1
enter package to be pushed : [12,13,14,15]
enter package title : 16
new package :  [12, 13, 14, 15, 16]
1 : Push
2 : Pop
0 : Exit
Enter your choice : 2
enter the package to be popped : [1,2,3,4,5,6]
Deleted element :  6
1 : Push
2 : Pop
0 : Exit
Enter your choice : 2
enter the package to be popped : []
stack underflow
1 : Push
2 : Pop
0 : Exit
Enter your choice : 0
>>>
```

Ln: 28 Col: 4

Question 22:

Aim:

Write the functions in Python push (stk, item) and pop(stk) to check whether the stack is empty, to add a new item, to delete an item and display the stack respectively. Implement the menu driven program.

Code:

csq1.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq1.py (3.8.0)

File Edit Format Run Options Window Help

```
def push(stk,item):
    stk.append(item)
    print('new stack : ',stk)
def pop(stk):
    if stk==[]:
        print('stack underflow')
    else:
        n=stk.pop()
        print('Deleted element : ',n)
        print('new stack : ',stk)
while True:
    print('1 : Push')
    print('2 : Pop')
    print('0 : Exit')
    m=eval(input('Enter your choice : '))
    if m==1:
        stk=eval(input('enter the stack to be pushed : '))
        item=eval(input('enter item to be added : '))
        push(stk,item)
    elif m==2:
        stk=eval(input('enter the stack to be popped : '))
        pop(stk)
    elif m==0:
        break
    else:
        print('please enter a valid choice')
```

Ln: 26 Col: 44

Output:

Python 3.8.0 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq1.py
1 : Push
2 : Pop
0 : Exit
Enter your choice : 1
enter the stack to be pushed : ['a',1,'b',2]
enter item to be added : 'c'
new stack :  ['a', 1, 'b', 2, 'c']
1 : Push
2 : Pop
0 : Exit
Enter your choice : 2
enter the stack to be popped : ['a',1,'b',2]
Deleted element :  2
new stack :  ['a', 1, 'b']
1 : Push
2 : Pop
0 : Exit
Enter your choice : 2
enter the stack to be popped : []
stack underflow
1 : Push
2 : Pop
0 : Exit
Enter your choice : 0
>>>
```

Ln: 29 Col: 4

Question 23:

Aim:

Consider the following tables product and client.

TABLE:PRODUCT

P_ID	PRODUCTNAME	MANUFACTURER	PRICE
TP01	TALCOM POWDER	LAK	40
FW05	FACE WASH	ABC	45
BS01	BATH SOAP	ABC	55
SH06	SHAMPOO	XYZ	120
FW12	FACE WASH	XYZ	95

TABLE:CLIENT

C_ID	CLIENTNAME	City	P_ID
01	COSMETIC SHOP	Delhi	FW05
06	TOTAL HEALTH	Mumbai	BS01
12	LIVE LIFE	Delhi	SH06
15	PRETTY WOMAN	Delhi	FW12
16	DREAMS	Banglore	TP01

Develop a complete menu driven application using python mySQL connectivity based on following parameters. Create functions wherever required

a) Database name: STORE

b) Table names: PRODUCT and CLIENT (as shown above)

c) Primary keys: pid, cid

d) Write suitable code in python to create database, tables and to insert the records.

e) Create a function to display the client name and the product purchased by the client in descending order of client names

f) Create a function to increase the price of all the products by 5%. Now display all the records of product table.

g) Create a function to remove the records of clients who are from Bangalore. Now display all the records of Client table.

h) Create a function to display number of clients from each city.

i) Create a function to increase the width of column city to 50

Code:

csq3.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq3.py (3.8.0)

File Edit Format Run Options Window Help

```
from prettytable import from_db_cursor
import mysql.connector as con
mycon=con.connect(host="localhost",user="root",password="13062003")
if mycon.is_connected():
    print("connection successful")
cur=mycon.cursor()
flag=False
cur.execute('show databases;')
for dbname in cur:
    if('store'in dbname):
        flag=True
if not flag:
    cur.execute("create database store")
    print("database store created")
cur.execute('use store')
str1="create table product(pid varchar(10) primary key, productname varchar(30), manufacturer varchar(1
str2="create table client(cid int primary key, clientname varchar(30), city varchar(20), pid varchar(10
cur.execute('show tables;')
pos=False
abc=False
for tbname in cur:
    if('product' in tbname):
        pos=True
    if ('client' in tbname):
        abc=True
if not pos:
    cur.execute(str1)
    print('table product created')
if  not abc:
```

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csq3.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq3.py (3.8.0)

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```
if  not abc:
    cur.execute(str2)
    print('table client created')
cur.execute('select * from product')
for x in cur:
    break
else:
    cur.execute("insert into product values('TP01','TALCUM POWDER','LAK','40')")
    cur.execute("insert into product values('FW05','FACE WASH','ABC','45')")
    cur.execute("insert into product values('BS01','BATH SOAP','ABC','55')")
    cur.execute("insert into product values('SH06','SHAMPOO','XYZ','120')")
    cur.execute("insert into product values('FW12','FACE WASH','XYZ','95')")
    mycon.commit()
cur.execute('select * from client')
for y in cur:
    break
else:
    cur.execute("insert into client values('01','COSMETIC SHOP','DELHI','FW05')")
    cur.execute("insert into client values('06','TOTAL HEALTH','MUMBAI','BS01')")
    cur.execute("insert into client values('12','LIVE LIFE','DELHI','SH06')")
    cur.execute("insert into client values('15','PRETTY WOMAN','DELHI','FW12')")
    cur.execute("insert into client values('16','DREAMS','BANGALORE','TP01')")
    mycon.commit()
def disp_cp():
    s1="select clientname,productname from client c,product p where c.pid=p.pid order by clientname des
    cur.execute(s1)
    x=from_db_cursor(cur)
    print(x)
def p_update():
```

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csq3.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq3.py (3.8.0)

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```
def p_update():
    s2="update product set price=price+(price*0.05)"
    cur.execute(s2)
    mycon.commit()
    cur.execute("select * from product")
    x=from_db_cursor(cur)
    print(x)
def c_update():
    s3=" delete from client where city='BANGALORE'"
    cur.execute(s3)
    mycon.commit()
    cur.execute('select * from client')
    x=from_db_cursor(cur)
    print(x)
def c_count():
    s4="select city,count(*) from client group by city"
    cur.execute(s4)
    x=from_db_cursor(cur)
    print(x)
def city_update():
    s5='alter table client modify city varchar(50)'
    cur.execute(s5)
    mycon.commit()
    cur.execute('desc client')
    x=from_db_cursor(cur)
    print(x)
while True:
    print('1 : display product purchased by clients')
    print('2 : increase prices of products by 5%')
```

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csq3.py - C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq3.py (3.8.0)

File Edit Format Run Options Window Help

```
    s5='alter table client modify city varchar(50)'
    cur.execute(s5)
    mycon.commit()
    cur.execute('desc client')
    x=from_db_cursor(cur)
    print(x)
while True:
    print('1 : display product purchased by clients')
    print('2 : increase prices of products by 5%')
    print('3 : remove record of clients from bangalore')
    print('4 : count number of client from each city')
    print('5 : increase the width of column city')
    print('0 : exit')
    n=eval(input('enter your choice : '))
    if n==1:
        disp_cp()
    elif n==2:
        p_update()
    elif n==3:
        c_update()
    elif n==4:
        c_count()
    elif n==5:
        city_update()
    elif n==0:
        break
    else:
        print('please enter a valid choice')
        continue
```

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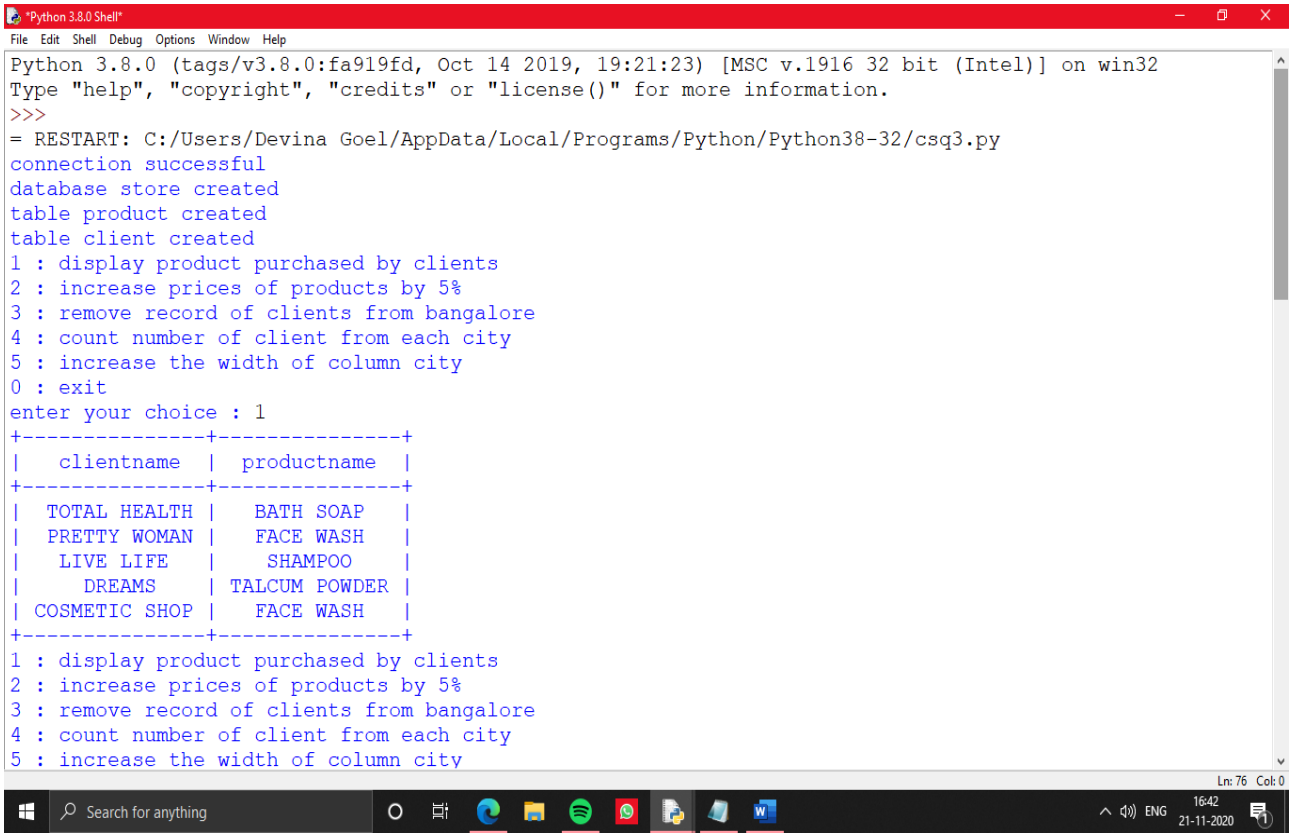
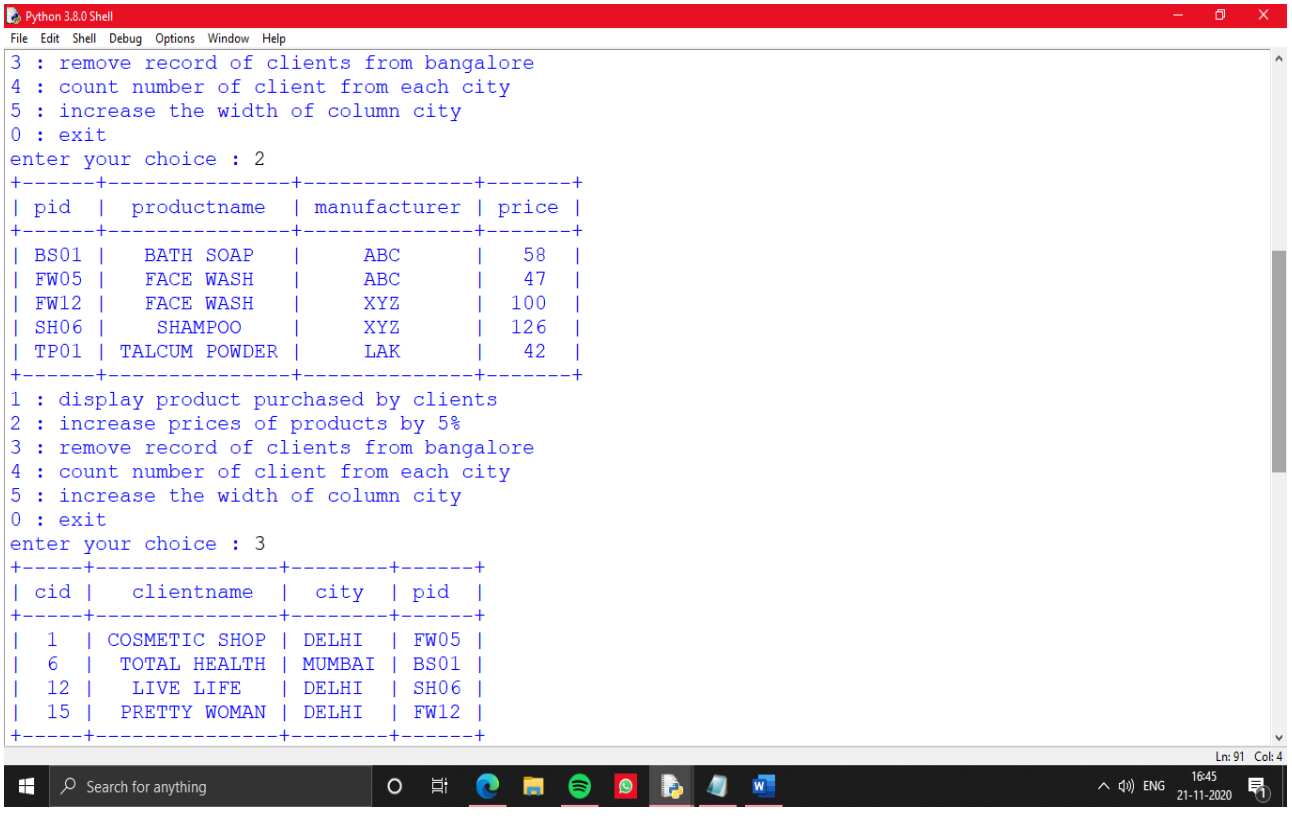
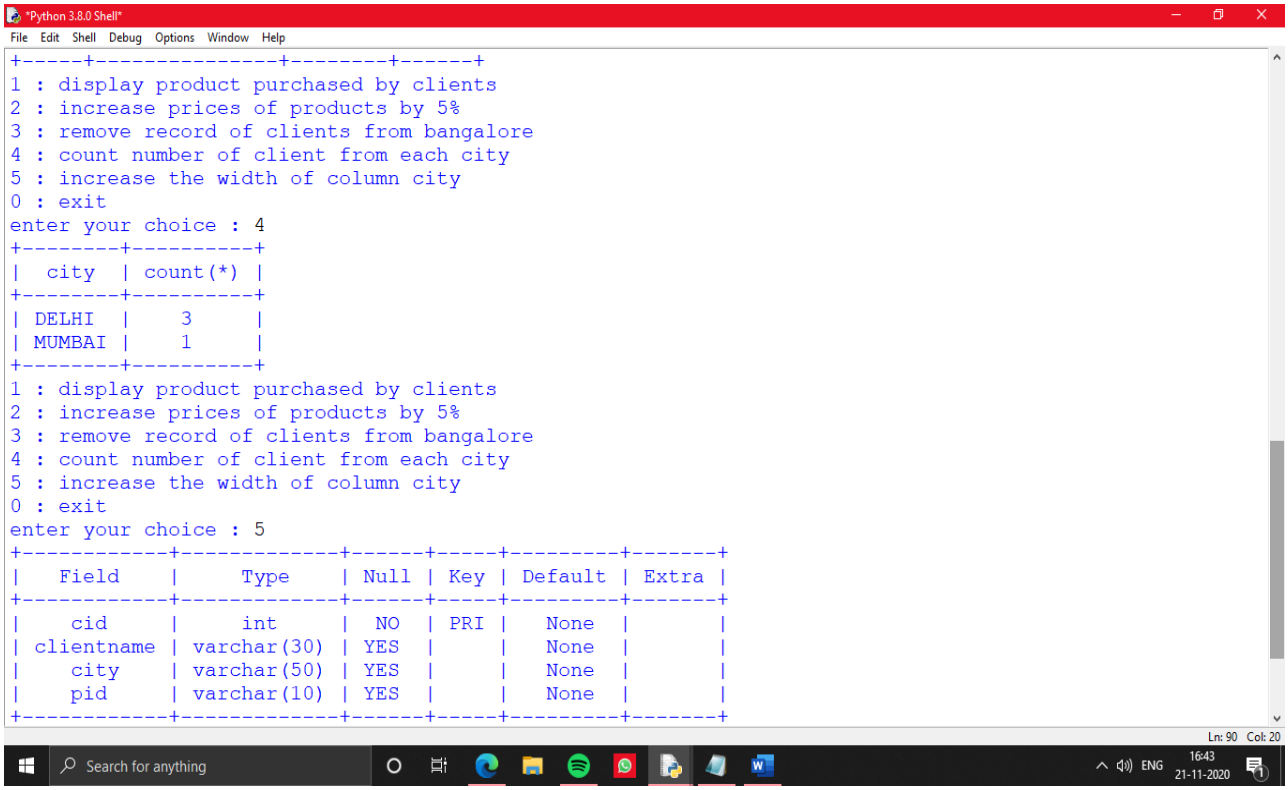
Output:



```
*Python 3.8.0 Shell*
File  Edit  Shell  Debug  Options  Window  Help
Python 3.8.0 (tags/v3.8.0:fa919fd, Oct 14 2019, 19:21:23) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Devina Goel/AppData/Local/Programs/Python/Python38-32/csq3.py
connection successful
database store created
table product created
table client created
1 : display product purchased by clients
2 : increase prices of products by 5%
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
0 : exit
enter your choice : 1
+---------------+---------------+
|   clientname  |  productname  |
+---------------+---------------+
|  TOTAL HEALTH |   BATH SOAP   |
|  PRETTY WOMAN |   FACE WASH   |
|   LIVE LIFE   |    SHAMPOO    |
|     DREAMS    | TALCUM POWDER |
| COSMETIC SHOP |   FACE WASH   |
+---------------+---------------+
1 : display product purchased by clients
2 : increase prices of products by 5%
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
```



```
Python 3.8.0 Shell
File  Edit  Shell  Debug  Options  Window  Help
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
0 : exit
enter your choice : 2
+------+---------------+--------------+-------+
| pid  |  productname  | manufacturer | price |
+------+---------------+--------------+-------+
| BS01 |   BATH SOAP   |     ABC      |   58  |
| FW05 |   FACE WASH   |     ABC      |   47  |
| FW12 |   FACE WASH   |     XYZ      |  100  |
| SH06 |    SHAMPOO    |     XYZ      |  126  |
| TP01 | TALCUM POWDER |     LAK      |   42  |
+------+---------------+--------------+-------+
1 : display product purchased by clients
2 : increase prices of products by 5%
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
0 : exit
enter your choice : 3
+-----+---------------+--------+------+
| cid |   clientname  |  city  | pid  |
+-----+---------------+--------+------+
|  1  | COSMETIC SHOP | DELHI  | FW05 |
|  6  |  TOTAL HEALTH | MUMBAI | BS01 |
|  12 |   LIVE LIFE   | DELHI  | SH06 |
|  15 |  PRETTY WOMAN | DELHI  | FW12 |
+-----+---------------+--------+------+
```


Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
+-----+---------------+--------+------+
1 : display product purchased by clients
2 : increase prices of products by 5%
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
0 : exit
enter your choice : 4
+--------+----------+
| city | count(*) |
+--------+----------+
| DELHI | 3 |
| MUMBAI | 1 |
+--------+----------+
1 : display product purchased by clients
2 : increase prices of products by 5%
3 : remove record of clients from bangalore
4 : count number of client from each city
5 : increase the width of column city
0 : exit
enter your choice : 5
+------------+-------------+------+-----+---------+-------+
| Field | Type | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
cid	int	NO	PRI	None	
clientname	varchar(30)	YES		None	
city	varchar(50)	YES		None	
pid	varchar(10)	YES		None	
+------------+-------------+------+-----+---------+-------+
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