SHANTI NIKETAN VIDYAPEETH

MEERUT

SESSION:- 2020-21

COMPUTER SCIENCE

FILE

CLASS:- 12th D (Humanities)

ROLL NO :- 28

SUBMITTED TO:

MR. ASHISH PATEL

SUBMITTED BY:

Nischal Sachdeva

INDEX

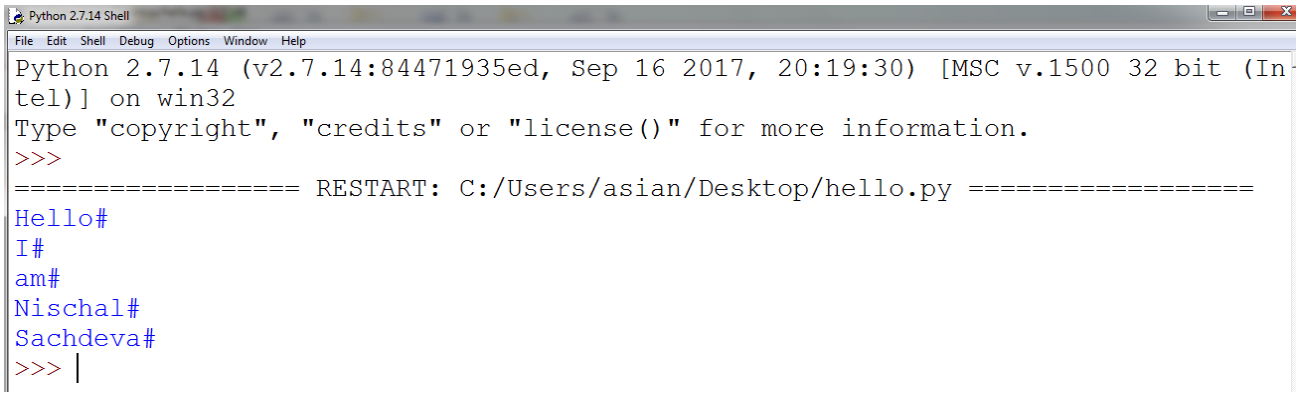
PROGRAMS

PROGRAM 1

Read a text file line by line and display each word separated by a #.

```
file=open("C:\python programs\\test.txt","r")
doc=file.readlines()
for i in doc:
   words=i.split()
   for a in words:
      print(a+"#")
file.close()
```

Output :



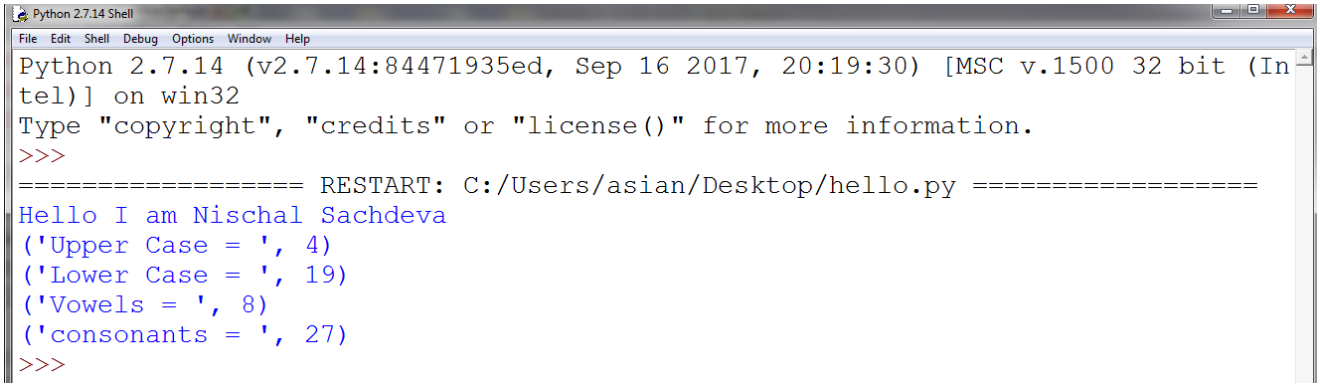
PROGRAM 2

Read a text file and display the number of vowels/ consonants/ uppercase/ lowercase characters in the file

```
upper = 0
lower = 0
vowel = 0
consonant = 0
file=open("text.txt","r")

doc=file.read()
print(doc)

for a in doc:
    if(a.isupper()):
        upper = upper + 1
    if(a.islower()):
        lower = lower + 1
    if(a == "a" or a == "e" or a == "i" or a == "o" or a == "u"):
        vowel = vowel + 1
    if(a != "a" or a != "e" or a != "i" or a != "o" or a != "u"):
        consonant = consonant + 1

print("Upper Case = ",upper)
print("Lower Case = ",lower)
print("Vowels = ",vowel)
```

```
print("consonants = ",consonant)

file.close()
```

Output :

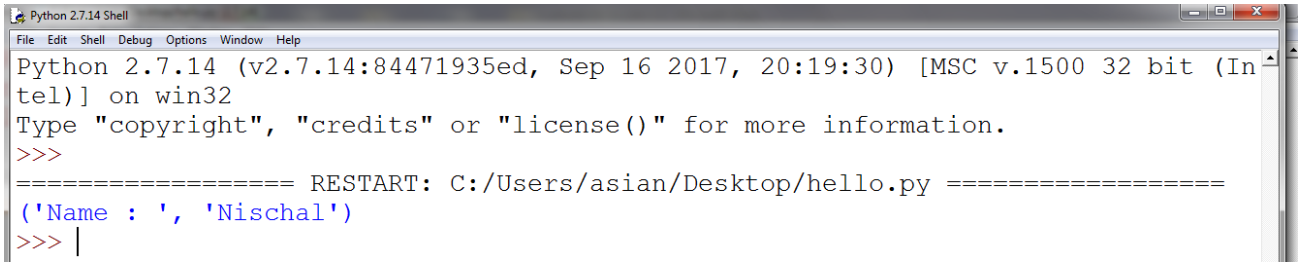


PROGRAM 3

Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.

```
file=open("text.txt","r")
doc=file.readlines()
print(doc)
thisdict = {
   }
enter  =  str(input("Enter The Name"))
for  a in doc:
   name,no = a.split(":")
   thisdict[name] = no

for  x,y in thisdict.items():
  if(y == enter):
     print(x)
else:
   print("Not Found")
```

OutPut:



PROGRAM 4

Create a binary file with roll number, name and marks. Input a roll number and update the marks.

```
import pickle

def set_data():
    rollno = int(input('Enter roll number: '))
    name = input('Enter name: ')
    test_score = int(input('Enter test score: '))
    print()

    #create a dictionary
    student = {}
    student['rollno'] = rollno
    student['name'] = name
    student['test_score'] = test_score

    return student


def display_data(student):
    print('Roll number:', student['rollno'])
    print('Name:', student['name'])
    print('Test Score:', student['test_score'])
    print()


def write_record():
    #open file in binary mode for writing.
    outfile = open('student.dat', 'ab')

    #serialize the object and writing to file
    pickle.dump(set_data(), outfile)

    #close the file
    outfile.close()


def read_records():
    #open file in binary mode for reading
```

```
    infile = open('student.dat', 'rb')

    #read to the end of file.
    while True:
        try:
            #reading the oject from file
            student = pickle.load(infile)

            #display the object
            display_data(student)
        except EOFError:
            break

    #close the file
    infile.close()

def search_record():
    infile = open('student.dat', 'rb')
    rollno = int(input('Enter rollno to search: '))
    flag = False

    #read to the end of file.
    while True:
        try:
            #reading the oject from file
            student = pickle.load(infile)

            #display record if found and set flag
            if student['rollno'] == rollno:
                display_data(student)
                flag = True
                break

        except EOFError:
            break

    if flag == False:
        print('Record not Found')
        print()

    #close the file
    infile.close()
```

```
def show_choices():
    print('Menu')
    print('1. Add Record')
    print('2. Display Records')
    print('3. Search a Record')
    print('4. Exit')

def main():
    while(True):
        show_choices()
        choice = input('Enter choice(1-4): ')
        print()

        if choice == '1':
            write_record()

        elif choice == '2':
            read_records()

        elif choice == '3':
            search_record()

        elif choice == '4':
            break

        else:
            print('Invalid input')

#call the main function.
main()
```

OutPut :

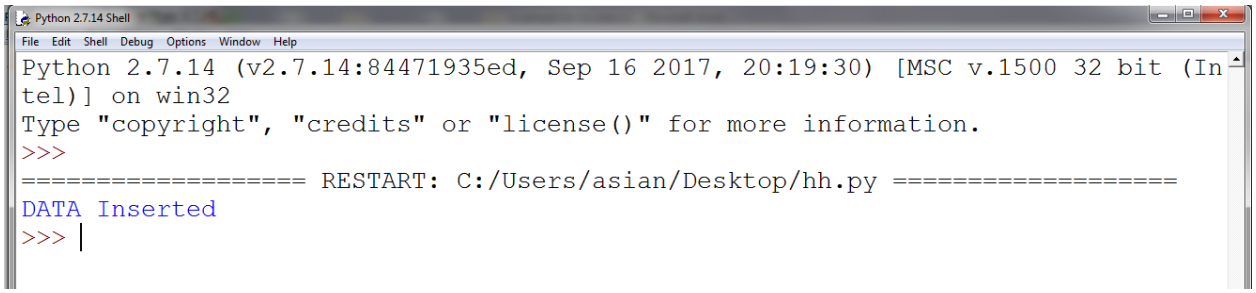
```
Menu
1. Add Record
2. Display Records
3. Search a Record
4. Exit
Enter choice(1-4): 1

Enter roll number: 21
Enter name: Deepak
Enter test score: 78
```

PROGRAM 5

Remove all the lines that contain the character `a' in a file and write it to another file.

```
open("test_res.txt", "w") .close()
with open("test.txt", "r") as test_file:
data = test_file.readlines()
        print(data)
        while(data):
                if(data.find("a") == -1):
                        with open("test_res.txt", "a") as test_file2:
                                test_file2.write(data+"\n")
                                print("Data Inserted")
```

Output :

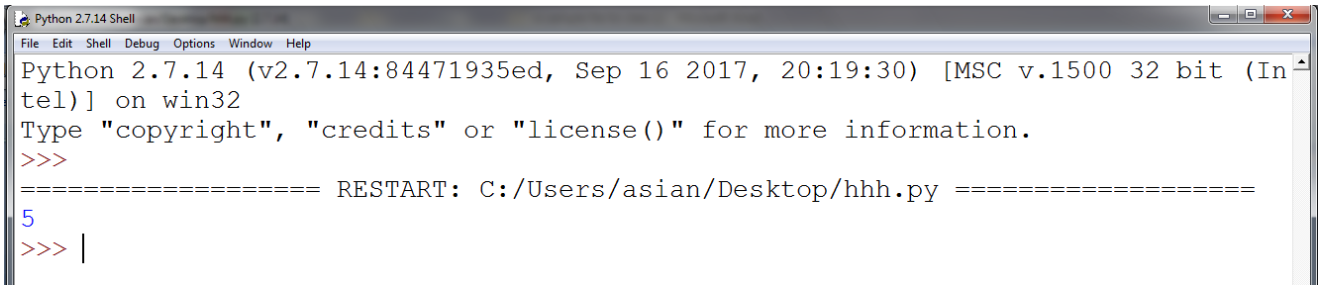


PROGRAM 6

Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).

```
import random
print(random.randint(1, 6))   #Integer from 1 to 6, endpoints included
```

Output:

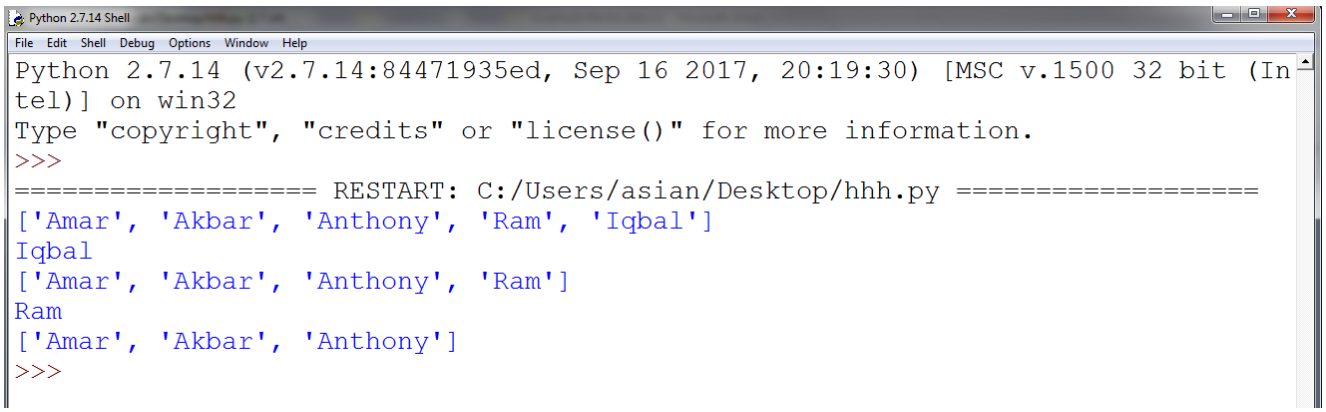


PROGRAM 7

Write a Python program to implement a stack and queue using a list data-structure.

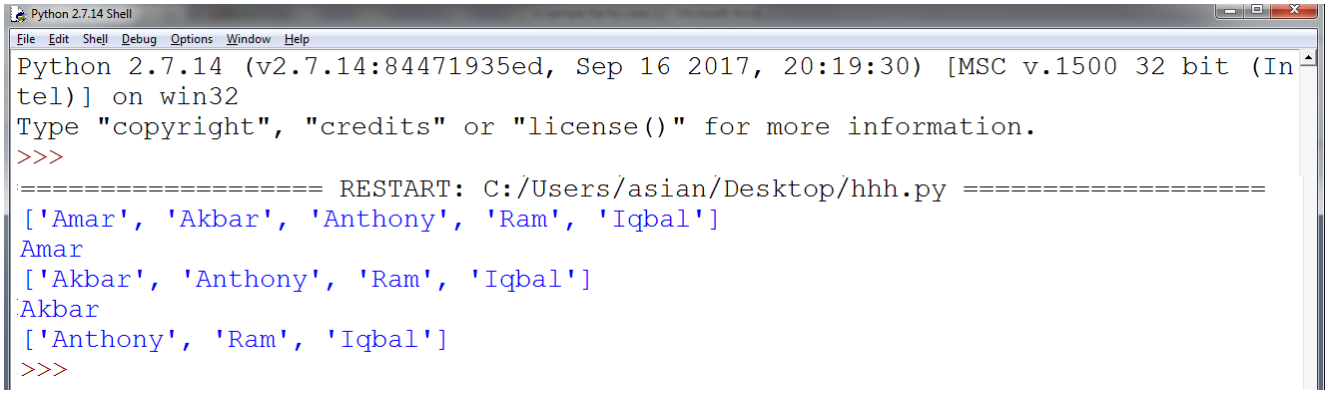
```
Python code to demonstrate Implementing
# stack using list
stack = ["Amar", "Akbar", "Anthony"]
stack.append("Ram")
stack.append("Iqbal")
print(stack)

# Removes the last item
print(stack.pop())

print(stack)

# Removes the last item
print(stack.pop())

print(stack)
```

Output :



```
# Python code to demonstrate Implementing
# Queue using list
queue = ["Amar", "Akbar", "Anthony"]
queue.append("Ram")
queue.append("Iqbal")
print(queue)

# Removes the first item
print(queue.pop(0))

print(queue)

# Removes the first item
print(queue.pop(0))

print(queue)
```

Output :



Thank you.