Index

Sr. No.	Topic	Date	Sign
1	Installing and setting up the Python IDLE interpreter. Executing simple statements like expression statement (numeric and Boolean types), assert, assignment, delete statements; the print function for output.	27/08/2018	
2	Script and interactive modes; defining a function in the two modes; executing a script; interactively executing a statement list (semicolon-separated sequence of simple statements); the input function.	28/08/2018	
3	Programs based on lists, conditional constructs, the for statement and the range function; interactively using the built-in functions len, sum, max, min	03/09/2018	
4	Programs related to string manipulation	04/09/2018	
5	Programs based on the while statement; importing and executing built-in functions from the time, math and random modules	17/09/2018	
6	Programs using break and continue statements.	18/09/2018	
7	Programs related to dictionaries	08/10/2018	
8	Programs using list comprehenstions and anonymous functions	15/10/2018	

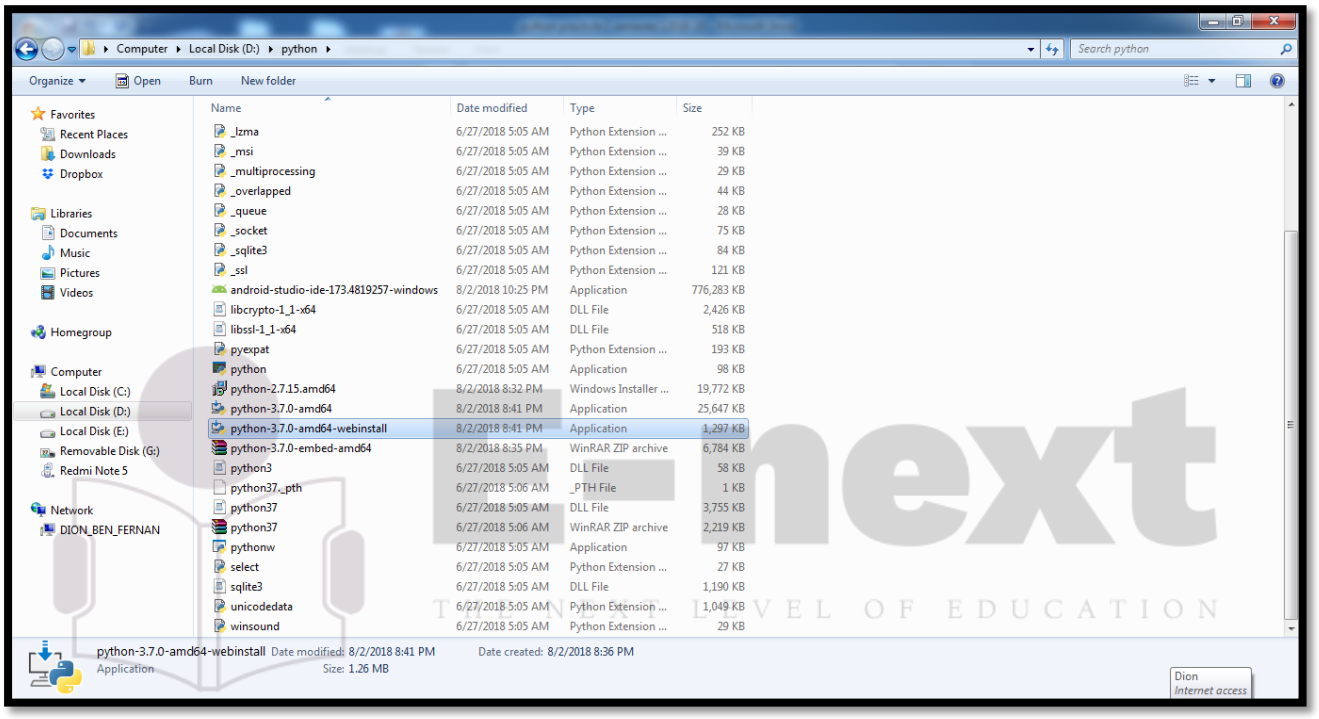
Practical No. 1

Aim: Installing and setting up the Python IDLE interpreter. Executing simple statements like expression statement (numeric and Boolean types), assert, assignment, delete statements; the print function for output.

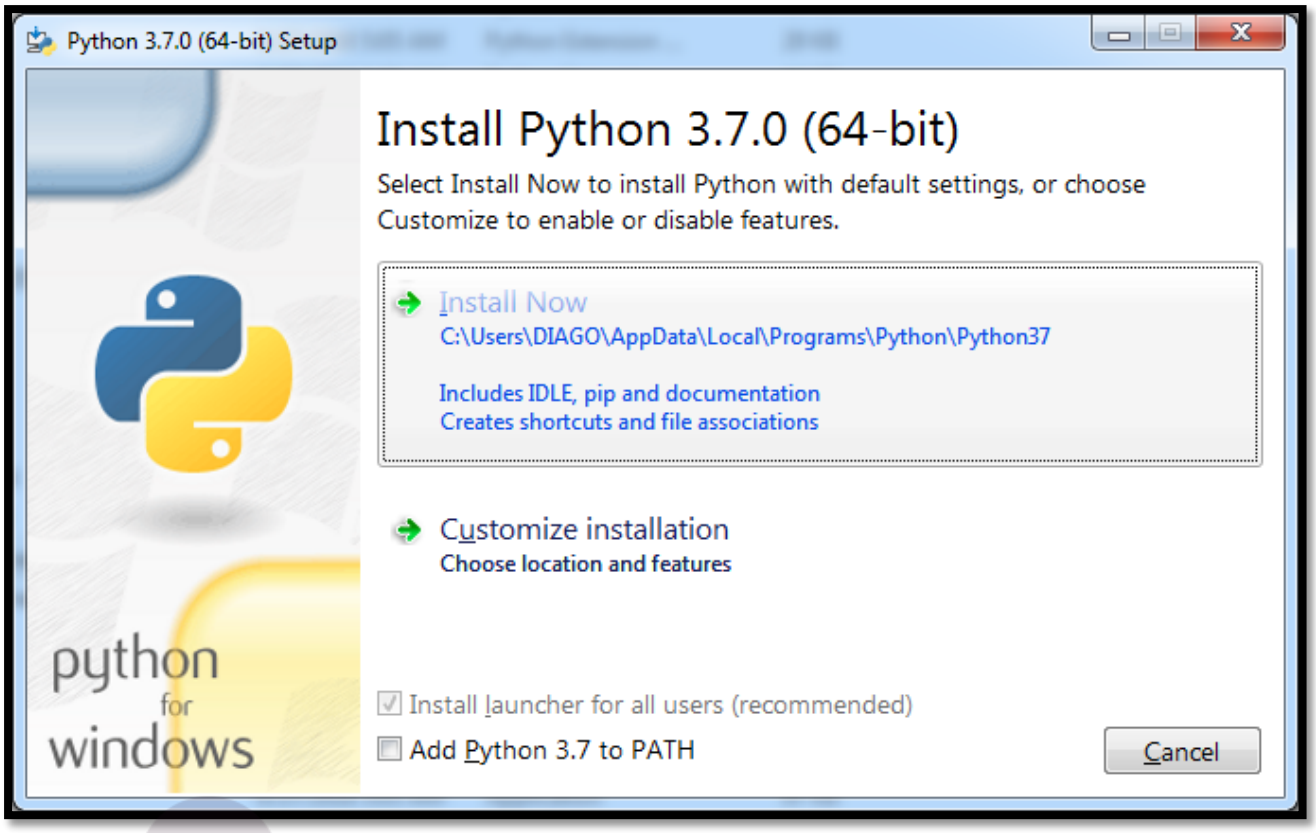
#Expression Statements

1. Write down the step to download and install the python IDLE interpreter.

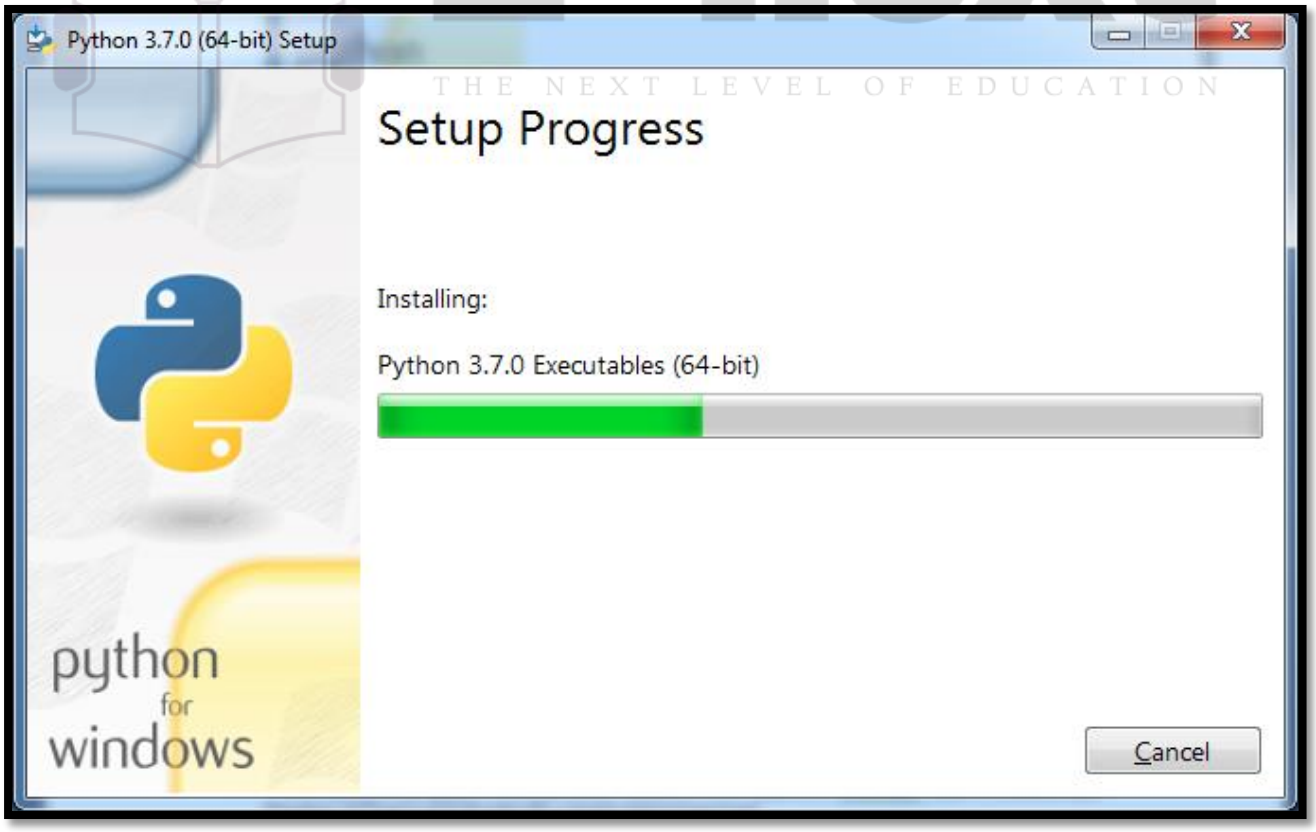
Step 1: Install the python IDLE from the site www.python.org according to the user's PC operating system .



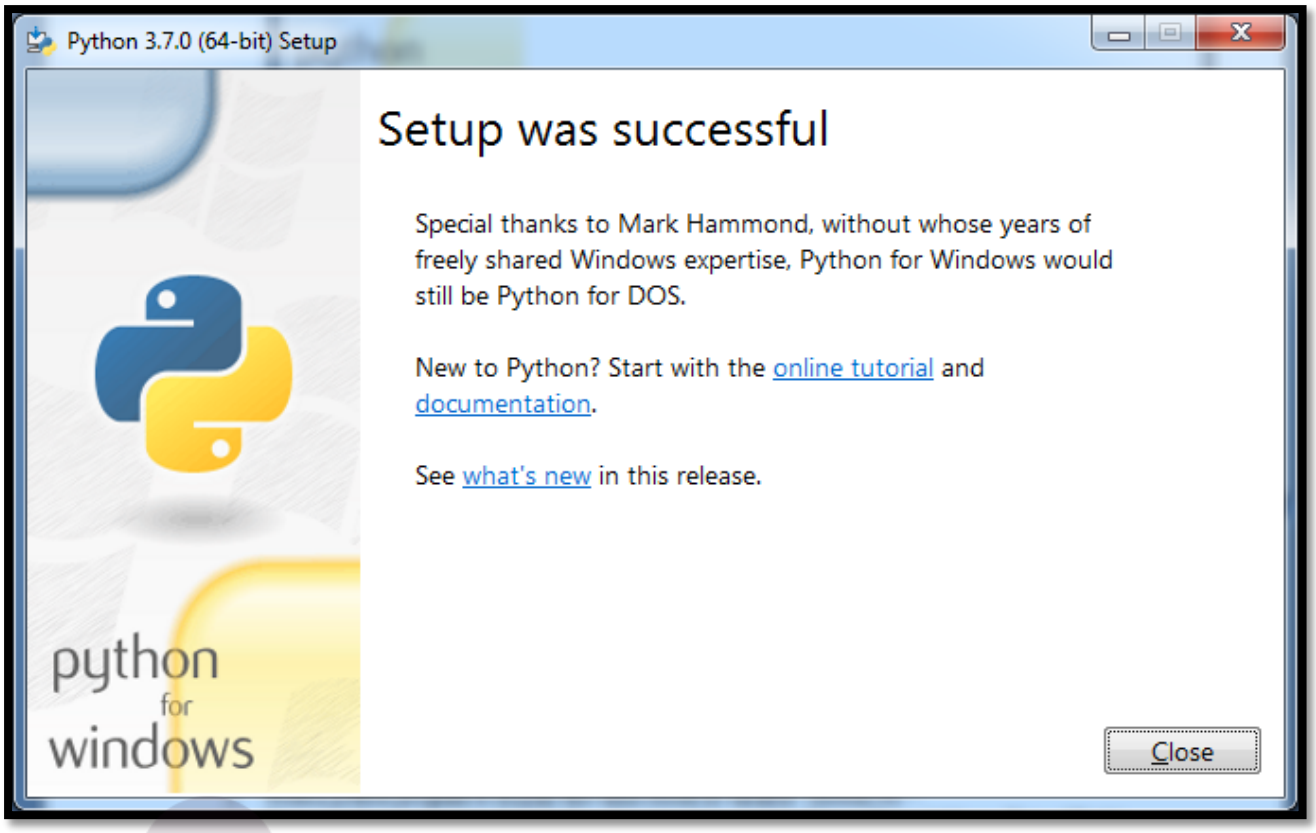
Step 2:Run the installer and click at the option install now.



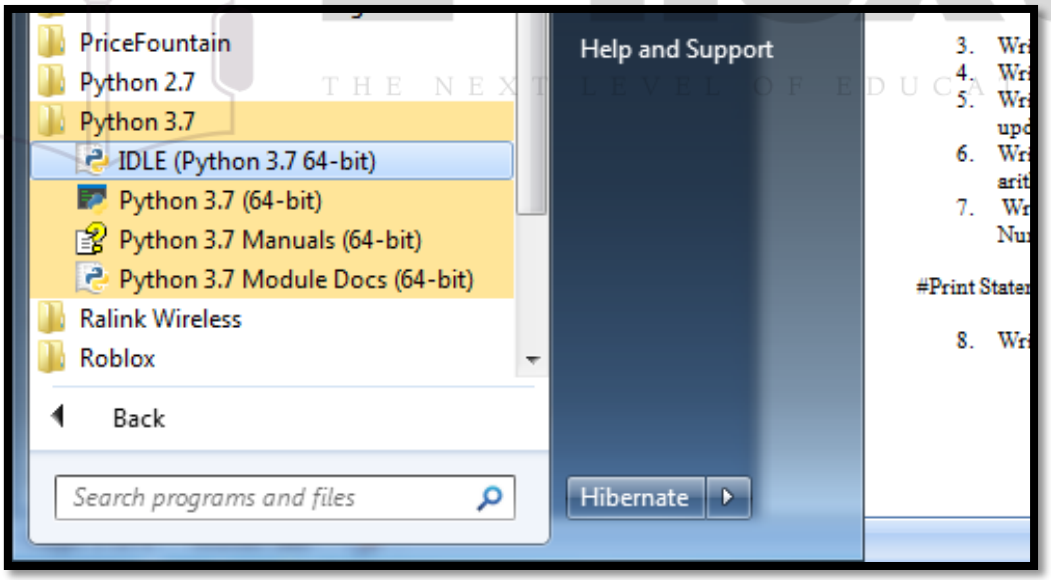
Step 3: Now let the setup run python on the user's PC.



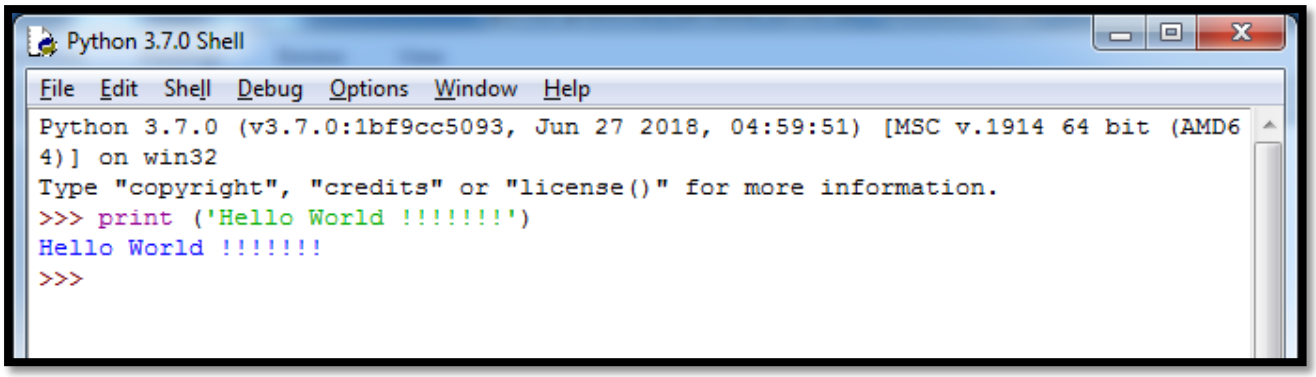
Step 4: When the setup is successfully installed close the tab.



Step 5: Run the IDLE (Python 3.7 64-bit).

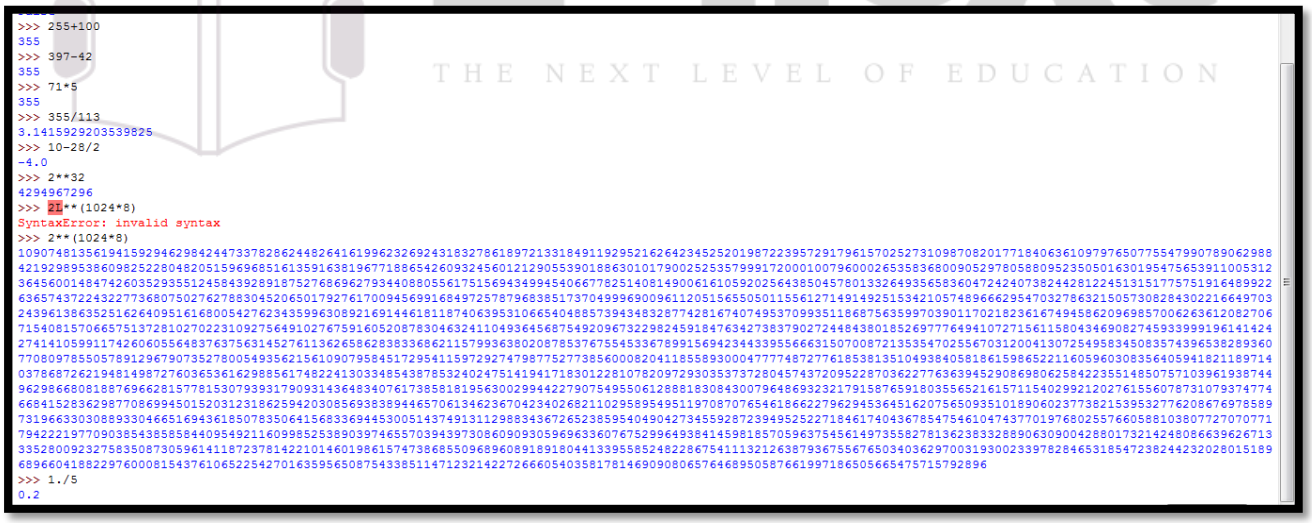


Step 6: Start the code for your python program.



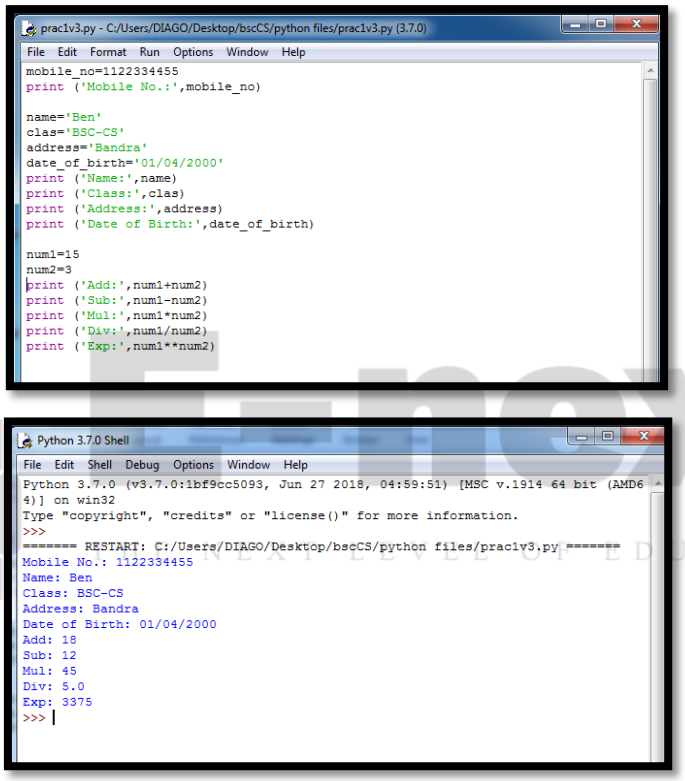
2. Execute the following expression statements and display the result

a. Basic arithmetic operation example
b. 255+100 #Integer
c. 397-42
d. 71*5
e. 355/113
f. 10-28/2
g. 2**32 #Long Integer
h. 2L**(1024*8)
i. 1./5 #Floating Number
j. print (2+3j)*(4+5j) #Complex Number
k. X=5 and Y=8 find X==Y, X!=Y, X<Y, X>Y,X<=Y,X>=Y #Boolean Expression



#Assignment statements

3. **Write a python program to display the value stored in variable “Mobile No.”.**
4. **Write a python program to display the value stored in variable (Name, Class, Address, Date of Birth) .**
5. **Write a python program to display the value stored in variable “Value of Note” before and after updating it.**
6. **Write a python program to declare two variables with values(i.e. Num1 and Num2) and perform basic arithmetic operation on it display the results.**
7. **Write a python program to declare three variables with values (i.e. Principal , Rate of Interest and Number of Years) and display the simple interest amount.**



#Print Statements

8. **Write a python program to display the following patterns:**

a.
```
*****
****
***
**
•
**
***
****
*****
```

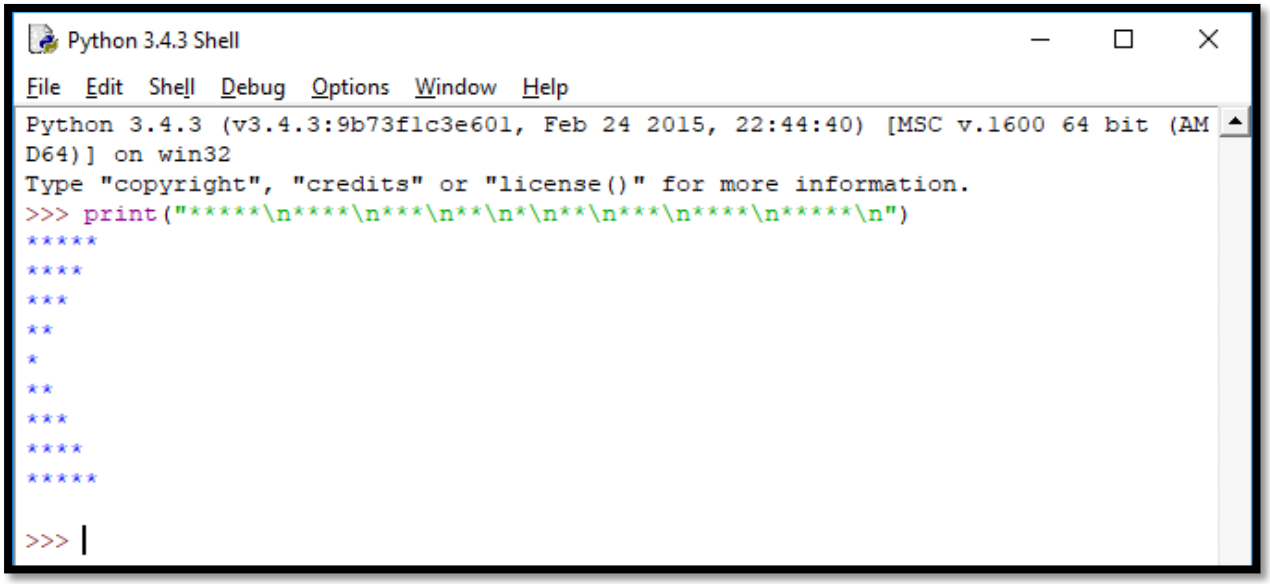
b.
```
****
******
*******
******
****
**
*
```

a.

Source code:

```
print("*****\n****\n***\n**\n*\n**\n***\n****\n*****\n")
```

Output Shown:

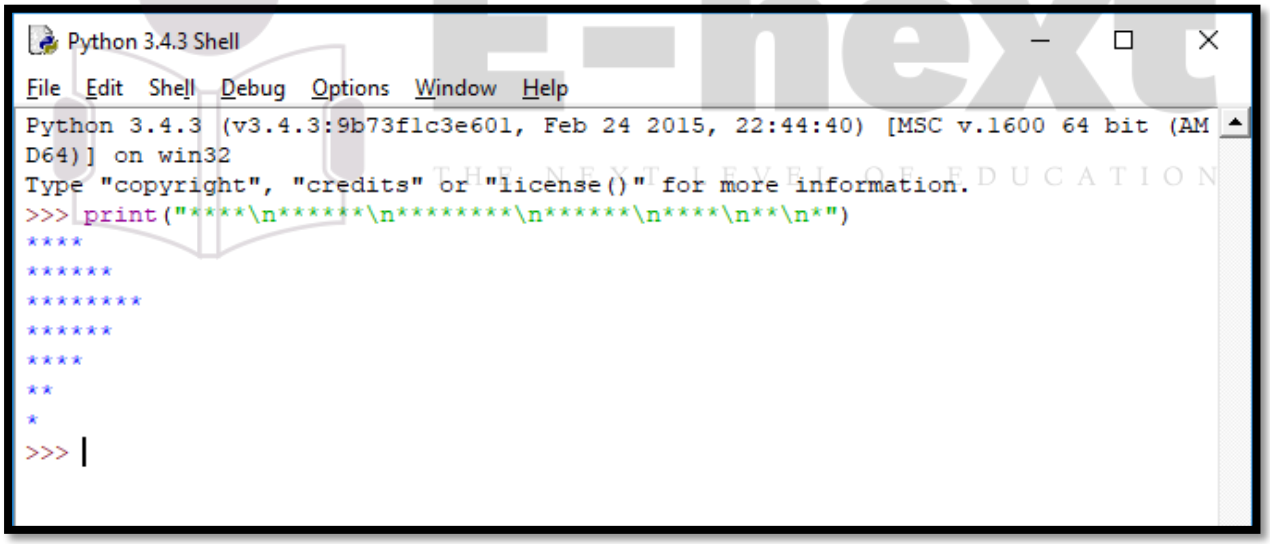


b.

Source code:

print("****\n******\n********\n******\n****\n**\n*")

Output Shown:



#assert Statements

9. Write a python program to declare a variable "contact check" assign a numerical value to it. Demonstrate the use of assert statement to check the correct contact number stored in variable.

Source code:

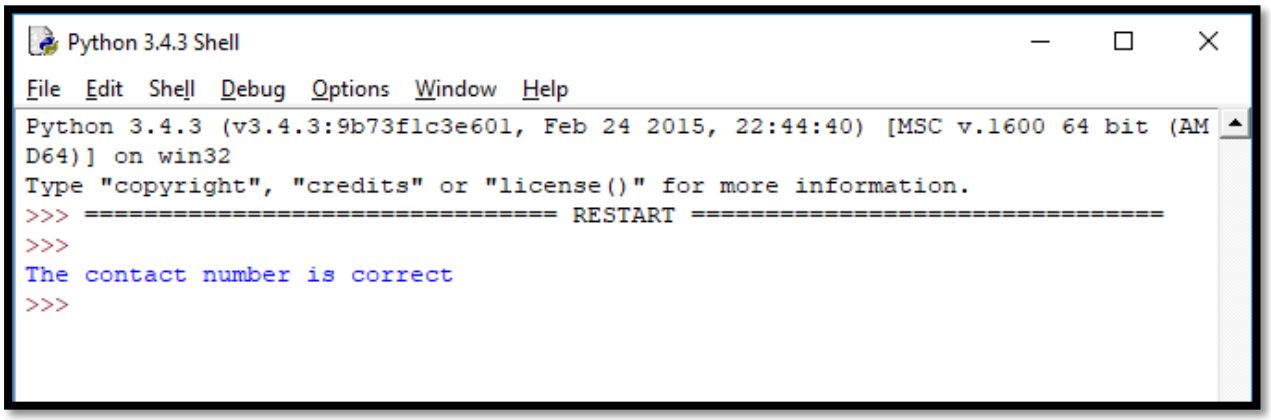
For correct number:

contact_check=9892813430

assert (contact_check>0),"caught by assert"

print("The contact number is correct")

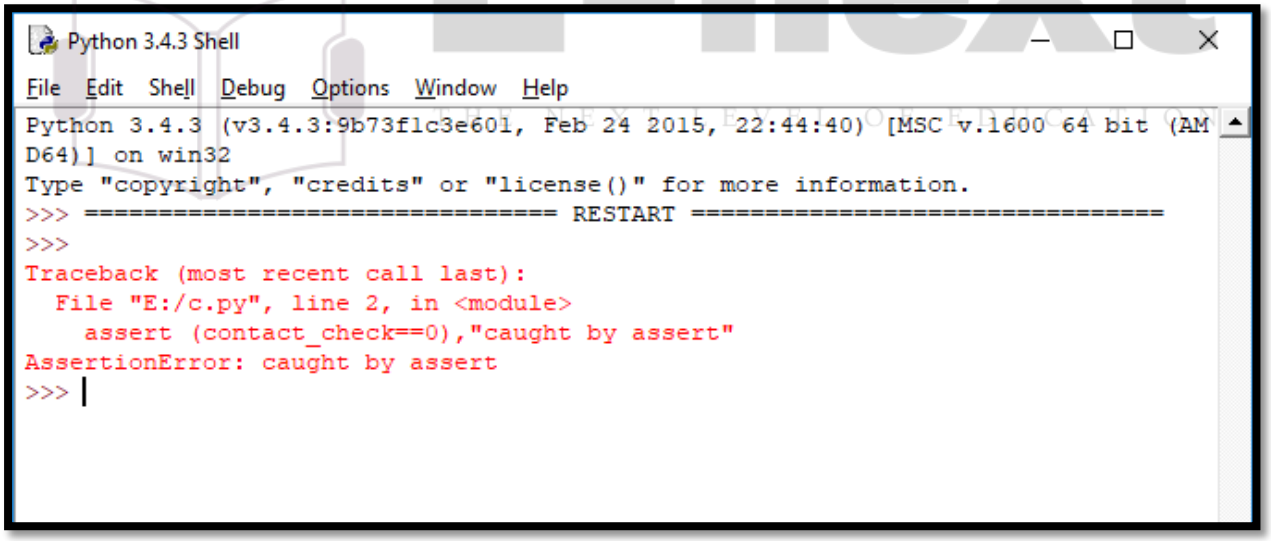
Output Shown:



For incorrect response:
Source code:

```
contact_check=9892813430
 assert (contact_check=0),"caught by assert"
 print("The contact number is correct")
```

Output Shown:

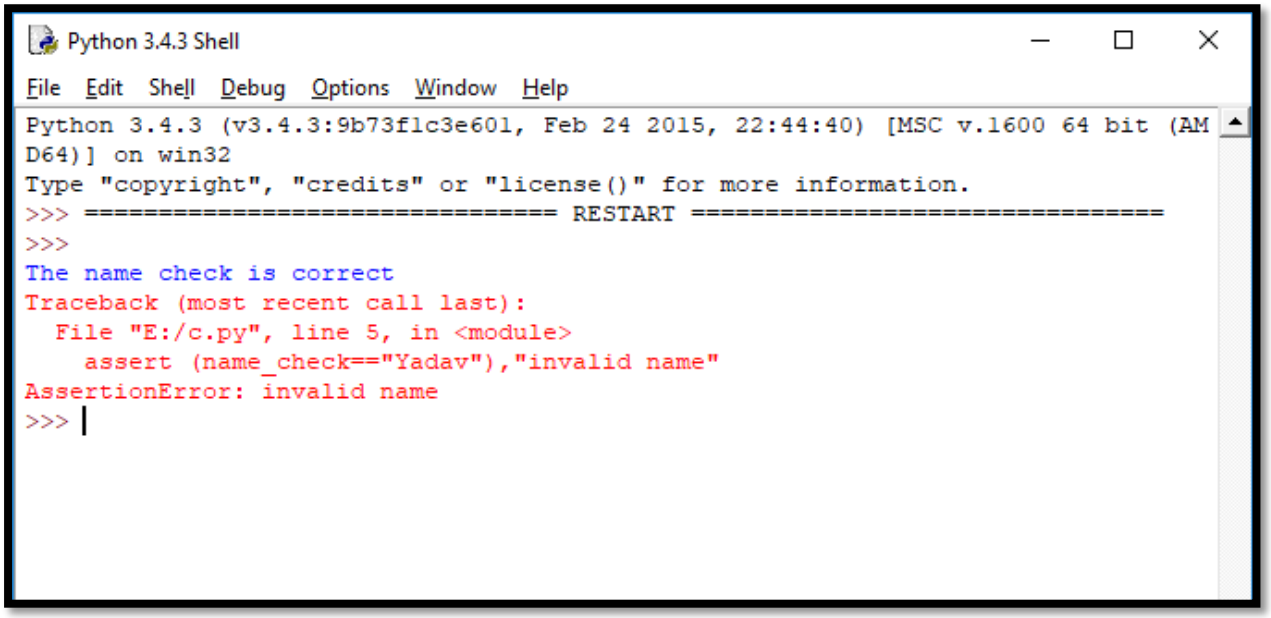


10. Write a python program to declare a variable "Name check" assign a string value to it. Demonstrate the use of assert statement to check the correct name stored in variable.

Source code:

```
name_check= "Shravan"
assert (name_check=="Shravan"),"invalid name"
print("The name check is correct")
assert (name_check=="Yadav"),"invalid name"
print("The name check is correct")
```

Output Shown:



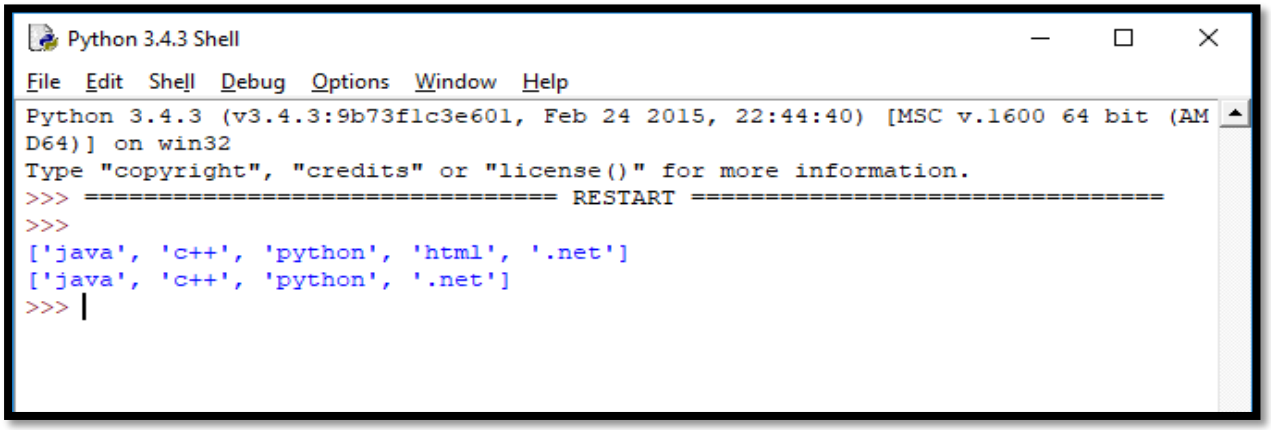
Delete statements.

11. Demonstrate the working of del()

Source code:

```
languages=['java','c++','python','html','.net']
print(languages)
del languages[3]
print(languages)
```

Output Shown:



Practical 2

Aim: Script and interactive modes; defining a function in the two modes; executing a script; interactively executing a statement list (semicolon-separated sequence of simple statements); the input function.

(A)

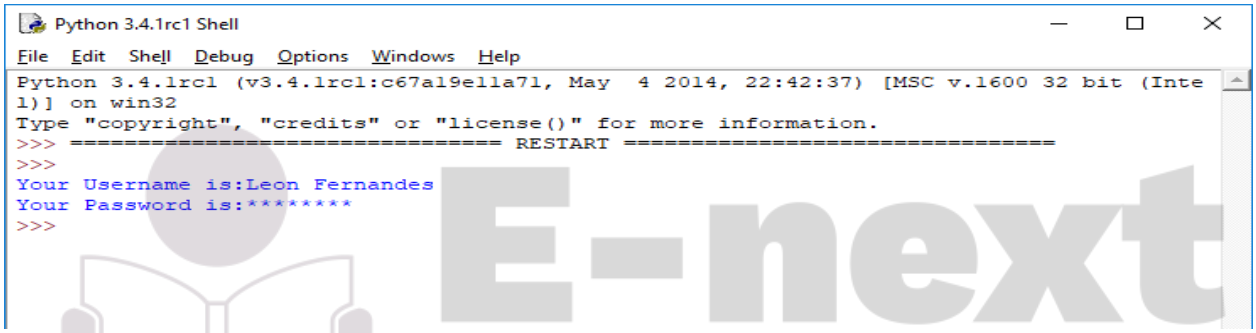
1. Write a python program using (script and interactive mode) to declare the variables ("User Name & Password") with some meaningful values and display the following output.

Source code:

Script modes:

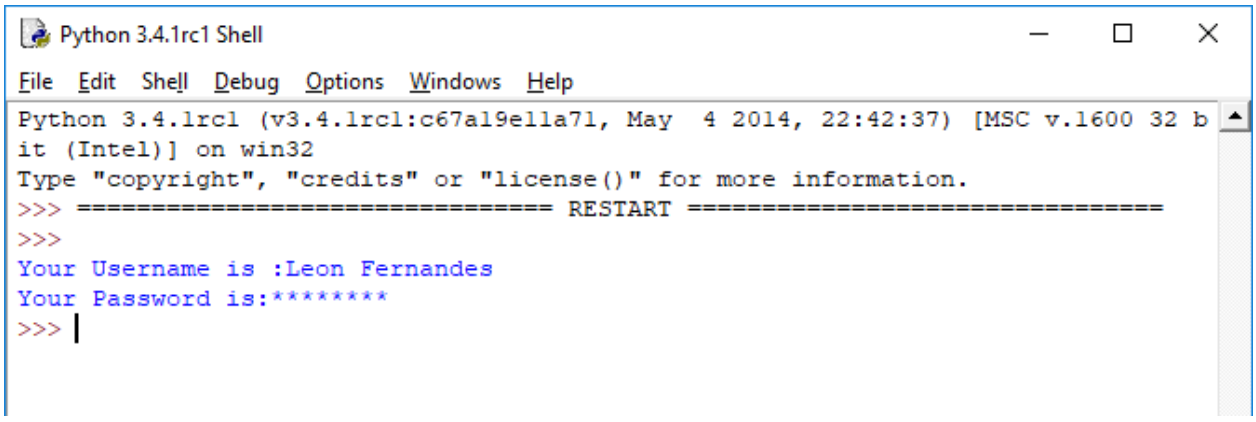
print("Your Username is:Leon Fernandes")

print("Your Password is:********")



Interactive mode:

print("Your Username is :Leon Fernandes\nYour Password is:********")



2. Write a python program using (script and interactive mode) to display "Facebook" sign up confirmation and display the following output.

Source code:

Script mode:

print("************WELCOME TO FACEBOOK CONFIRMATION PAGE************")

print("====VERIFY YOUR DETAILS====")

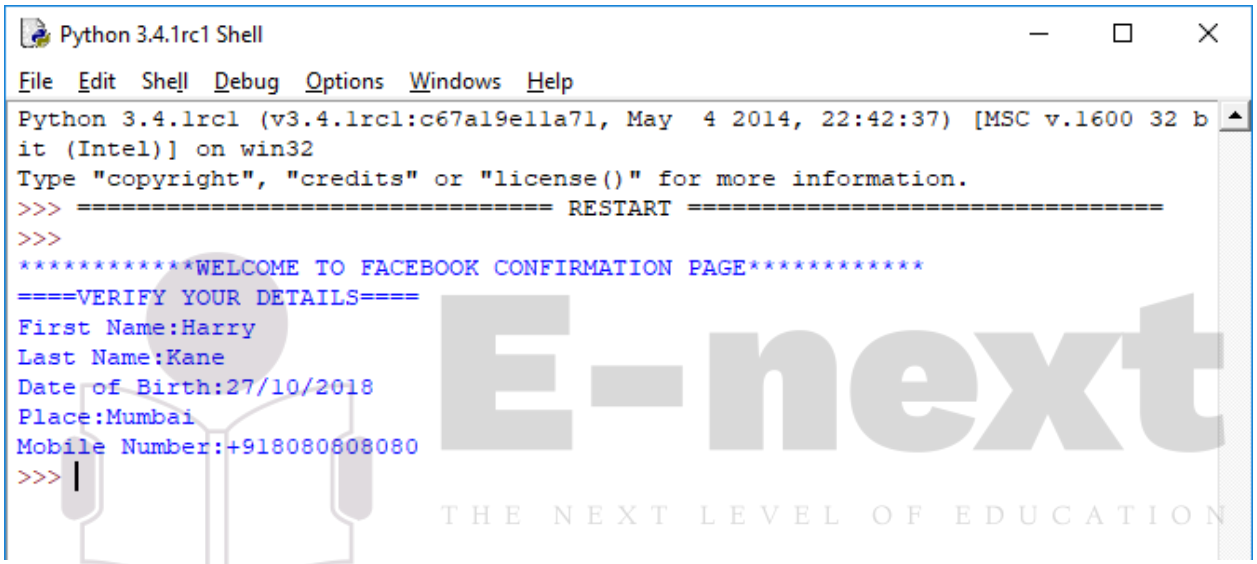
print("First Name:Harry")

print("Last Name:Kane")

print("Date of Birth:27/10/2018")

print("Place:Mumbai")

print("Mobile Number:+918080808080")



Interactive mode:

CONFIRMATION PAGE************\n======VERIFY YOUR DETAILS======\nFirst Name:Harry\nLast Name:Kane\nDate of Birth:27/10/2018\nPlace:Mumbai\nMobile Number:+918080808080")

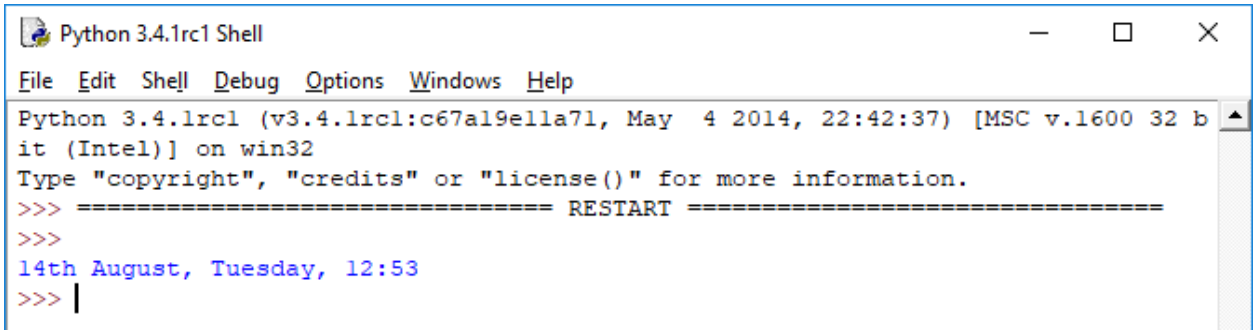
(B) Defining a function in the two modes

1. Write a python program to define a function "Display" and use this function to display the current date, day and time (use both script and interactive mode).

Source code:

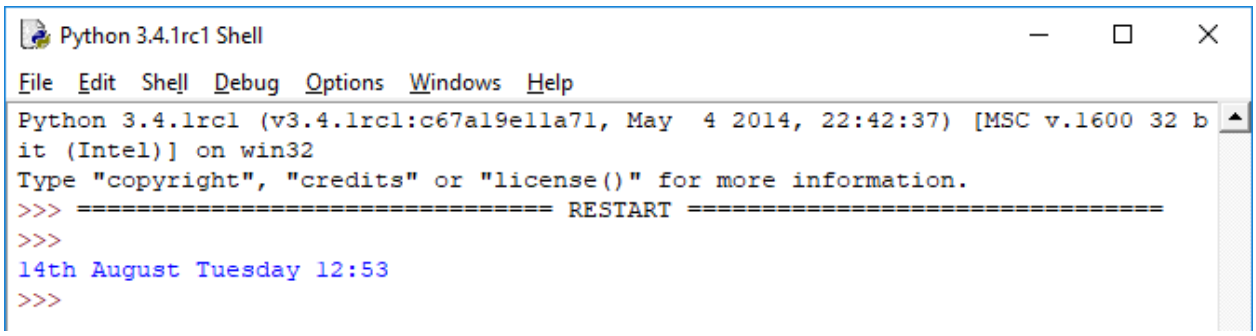
Script mode:

```
def display():
    print("14th August, Tuesday, 12:53")
display()
```



Interactive mode:

```
def display():
    print("14th August Tuesday 12:53")
display()
```

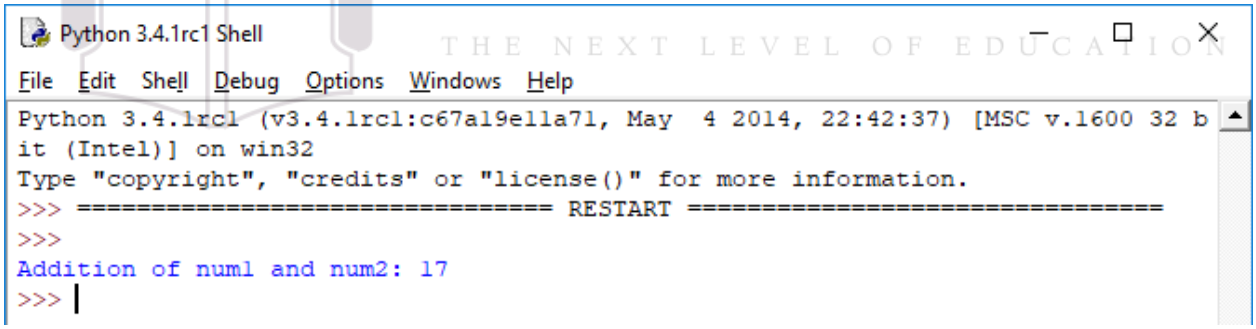


2. Write a python program to define a function "Add" and use this function to display the addition of two numbers (use both script and interactive mode).

Source code:

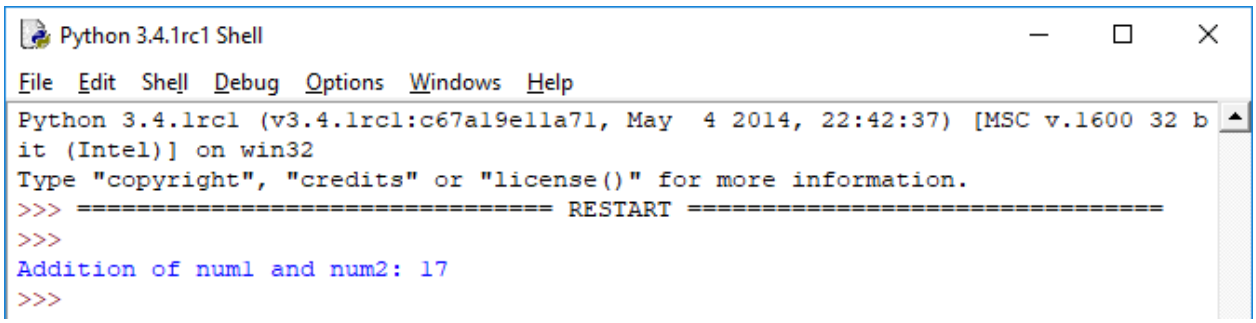
Script mode:

```
def Add():
    num1=7
    num2=10
    print("Addition of num1 and num2:",num1+num2)
Add()
```



Interactive mode:

```
def Add():
    num1=7
    num2=10
    print("Addition of num1 and num2:",num1+num2)
Add()
```

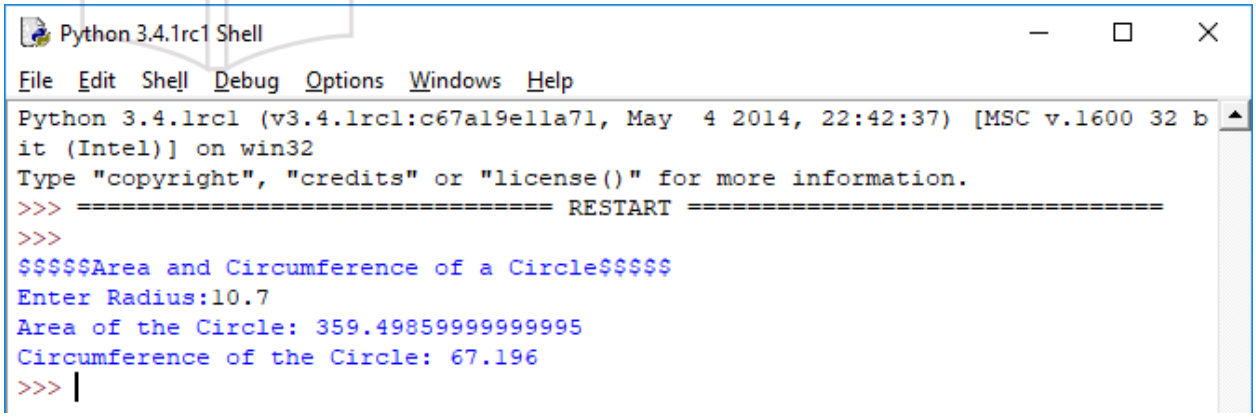


(C) The Input Function

1. Write a python program to take the input (i.e. radius of a circle) from the user and display the area of the circle and circumference of the circle.

Source code:

```
print("$$$$$Area and Circumference of a Circle$$$$$")
radius=float(input("Enter Radius:"))
area=3.14*radius**2
circumference=2*3.14*radius
print("Area of the Circle:",area)
print("Circumference of the Circle:",circumference)
```



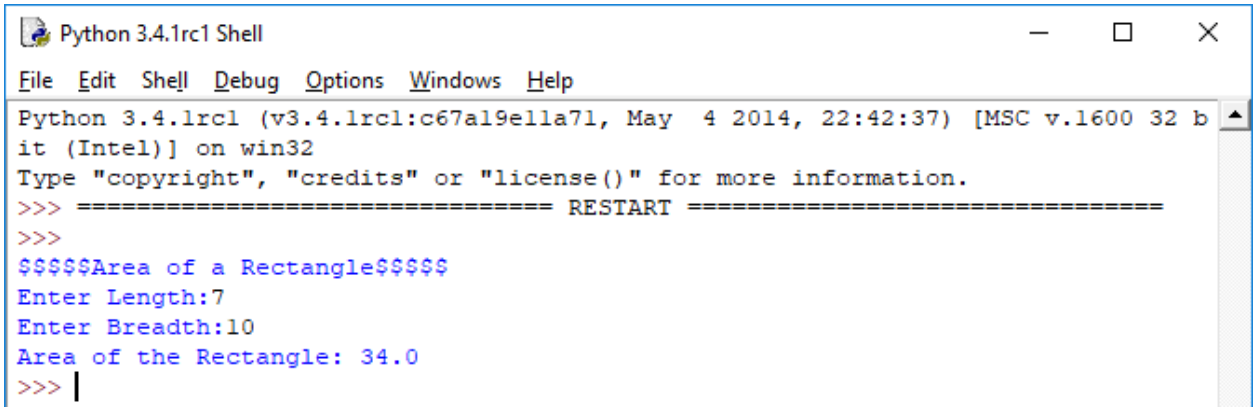
2. Write a python program to take the input (i.e. length and breadth) from the user and display the area of the rectangle.

Source code:

```
print("$$$$$Area of a Rectangle$$$$$")
length=float(input("Enter Length:"))
breadth=float(input("Enter Breadth:"))
```

area=2*(length+breadth)

print("Area of the Rectangle:",area)



3. Write a python program to take the input (i.e. radius of the circle) from the user and display the area of the circle.

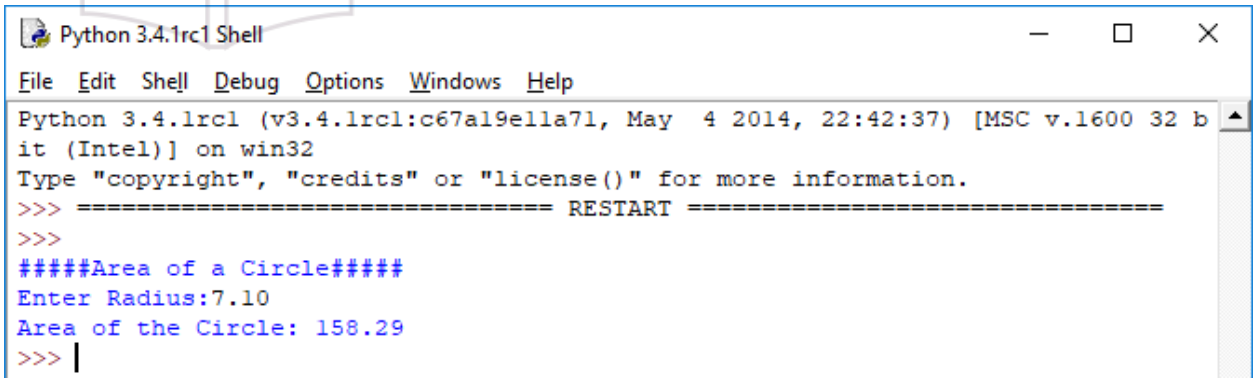
Source code:

print("#####Area of a Circle#####")

radius=float(input("Enter Radius:"))

area=format(3.14*radius**2,".2f")

print("Area of the Circle:",area)



4. Write a python program to take the input (i.e. table of) from the user and display the multiplication table of it.

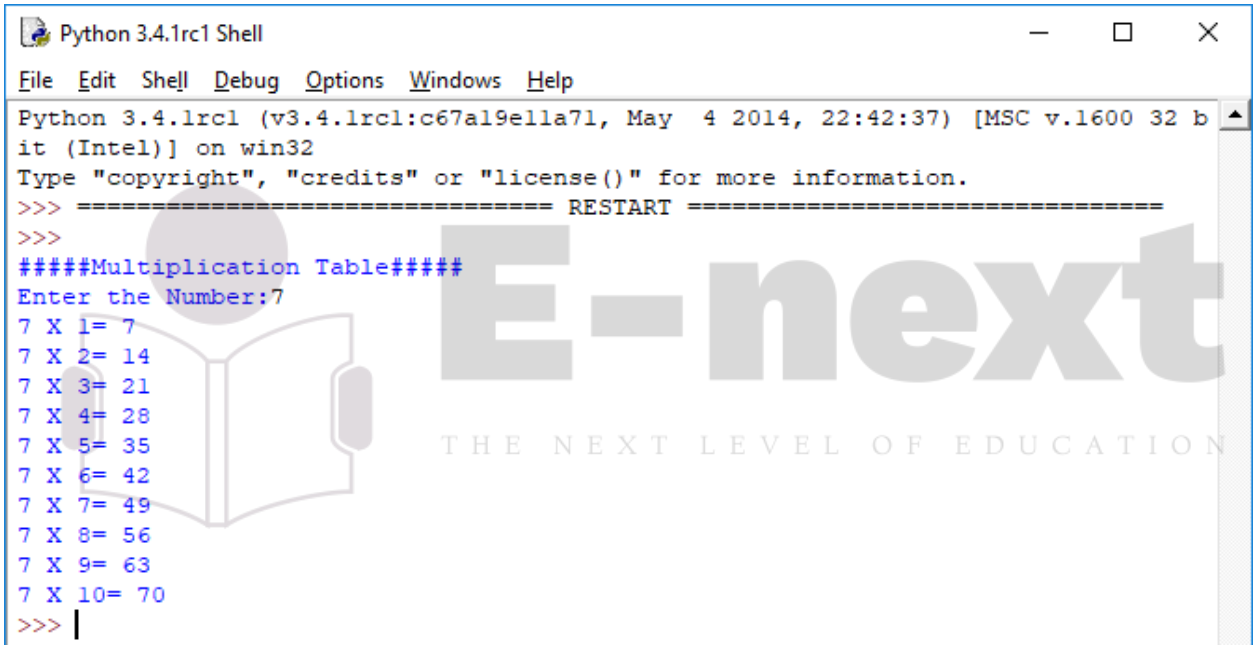
Source code:

print("#####Multiplication Table#####")

n=int(input("Enter the Number:"))

print(n,'X 1=',n*1)

```
print(n,'X 2=',n*2)

print(n,'X 3=',n*3)

print(n,'X 4=',n*4)

print(n,'X 5=',n*5)

print(n,'X 6=',n*6)

print(n,'X 7=',n*7)

print(n,'X 8=',n*8)

print(n,'X 9=',n*9)

print(n,'X 10=',n*10)
```



5. Write a python program to take the input (i.e. Student Name, Class, Roll No, Date of Birth, Address, Contact No) from the user and display the ID-CARD Details.

Source code:

```
print("$$$$$ID-CARD$$$$$")

n=input('Enter your Name:')

c=input('Enter your Class:')

r=input('Enter your Roll No:')

d=input('Enter your Date of Birth:')

a=input('Enter your Address:')
```

```
m=input('Enter your Contact No:')

print('\n$$$$$Verification of Details$$$$$')

print('Name:',n)

print('Class:',c)

print('Roll No:',r)

print('Date of Birth:',d)

print('Address:',a)

print('Contact No:',m)
```

Practical No. 3

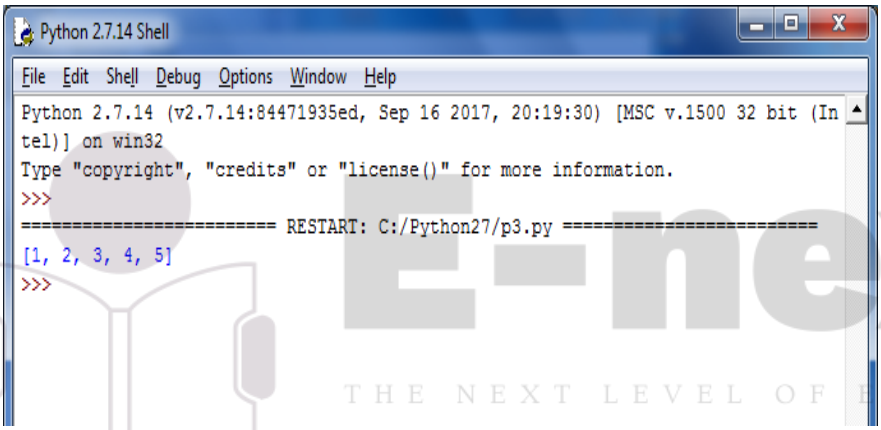
Aim: Programs based on lists, conditional constructs, the for statement and the range function; interactively using the built-in functions len, sum, max, min

(A) Programs based on lists

1. Write a python program to display a list with 5 numerical type members of it.
   Source code:

```
Numbers=[1,2,3,4,5]
print(Numbers)
```

Output:

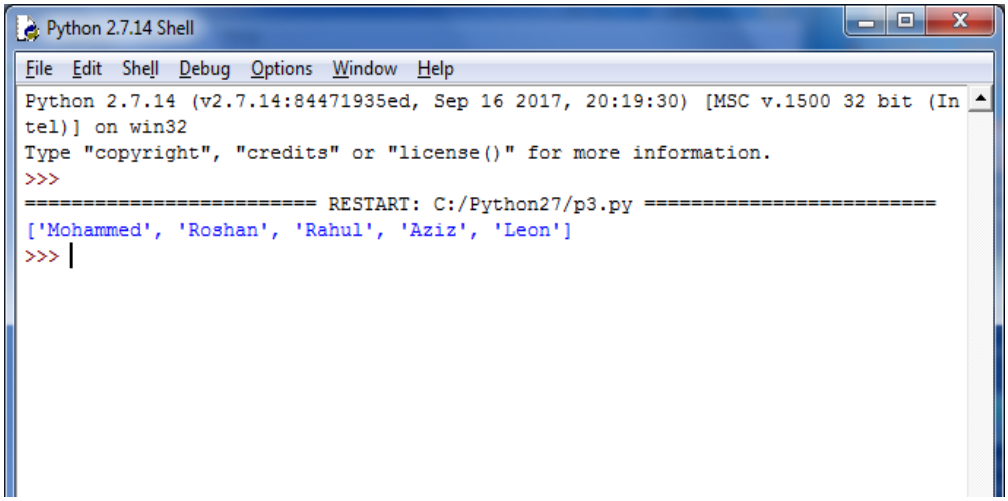


2. **Write a python program to display a list with 5 string type members of it.**

Source code:

```
Names=["Mohammed","Roshan","Rahul","Aziz","Leon"]
print(Names)
```

Output:

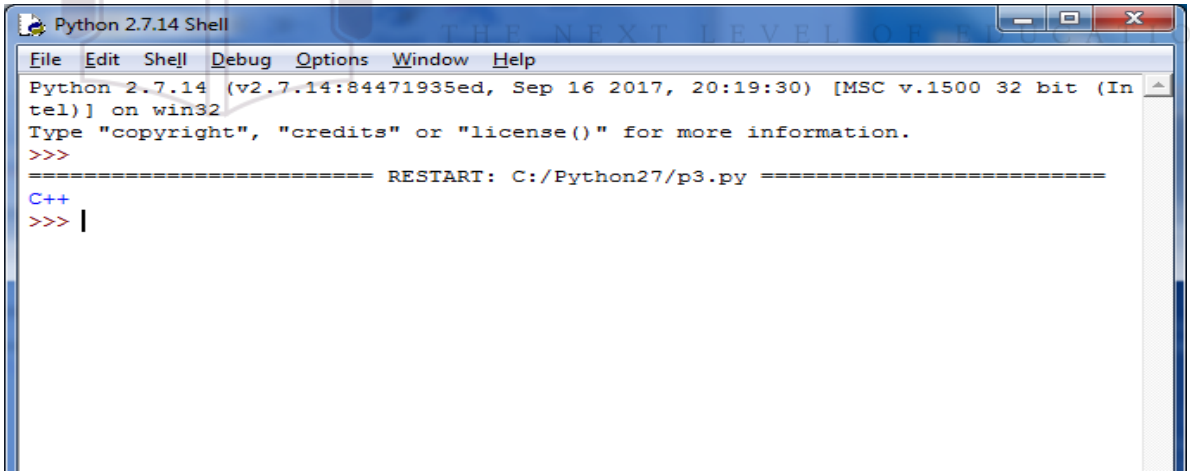


3. Write a python program to display a specific element of a list.

Source code:

```
languages=['C','C++','Python','Java']
print(languages[1])
```

Output:

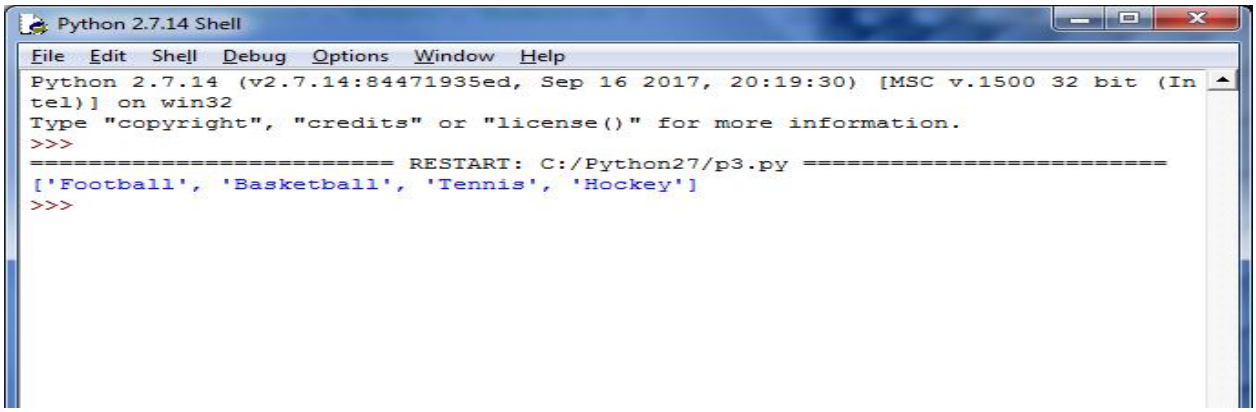


4. Write a python program to display the elements of list with in a specific range.

Source code:

```
Games=['Cricket','Football','Basketball','Tennis','Hockey','Badminton']
print(Games[1:5])
```

Output:



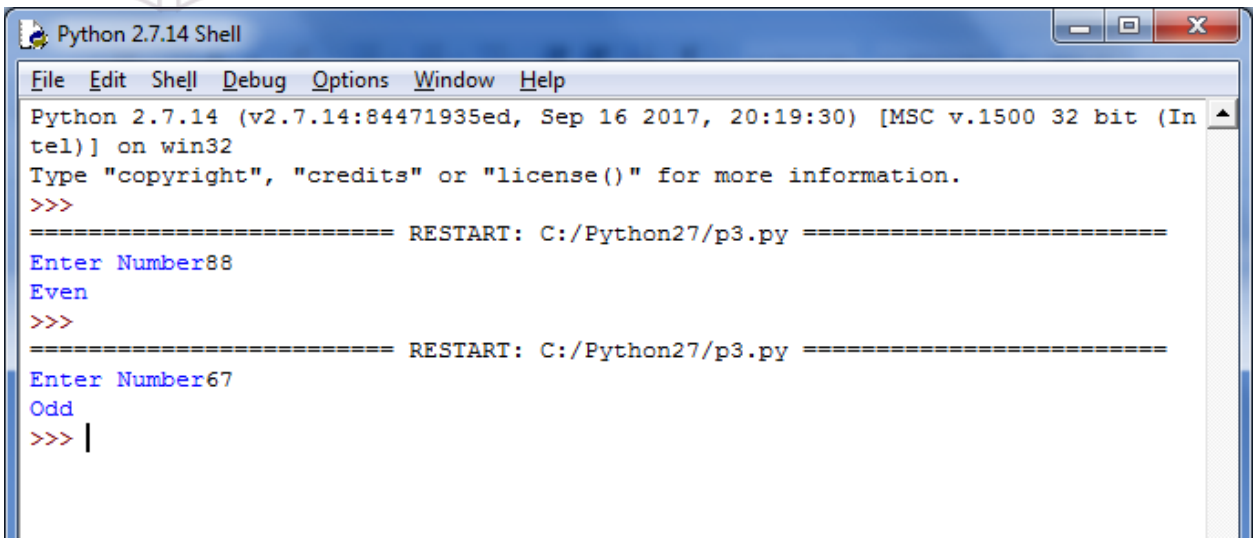
(B) Programs based on conditional constructs

1. **Write a python program to accept an integer number from the user and display whether it is even no or odd number.**

   Source code:

```
a=input("Enter Number")
if (a%2==0):
    print('Even')
else:
    print('Odd')
```

   Output:



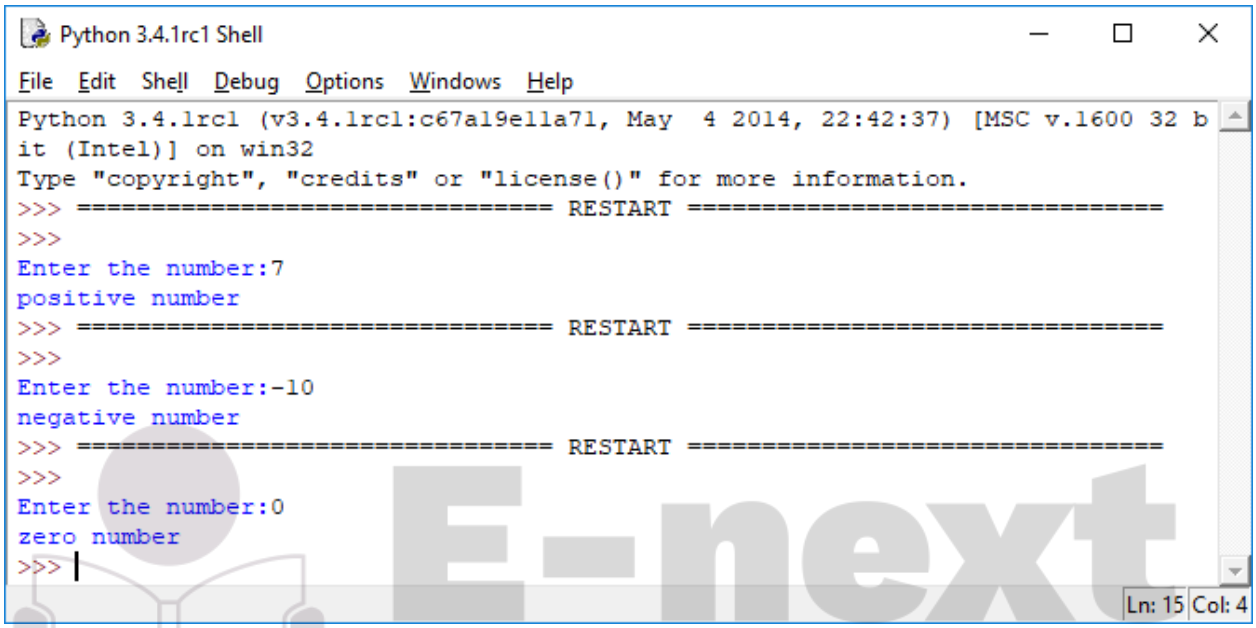
2. **Write a python program to accept a number from the user and display whether it is positive, negative or zero number.**

   Source code:

```
a=int(input("Enter the number:"))
```

```
if (a>0):
   print("positive number")
elif (a<0):
   print("negative number")
else:
   print("zero number")
```

Output:

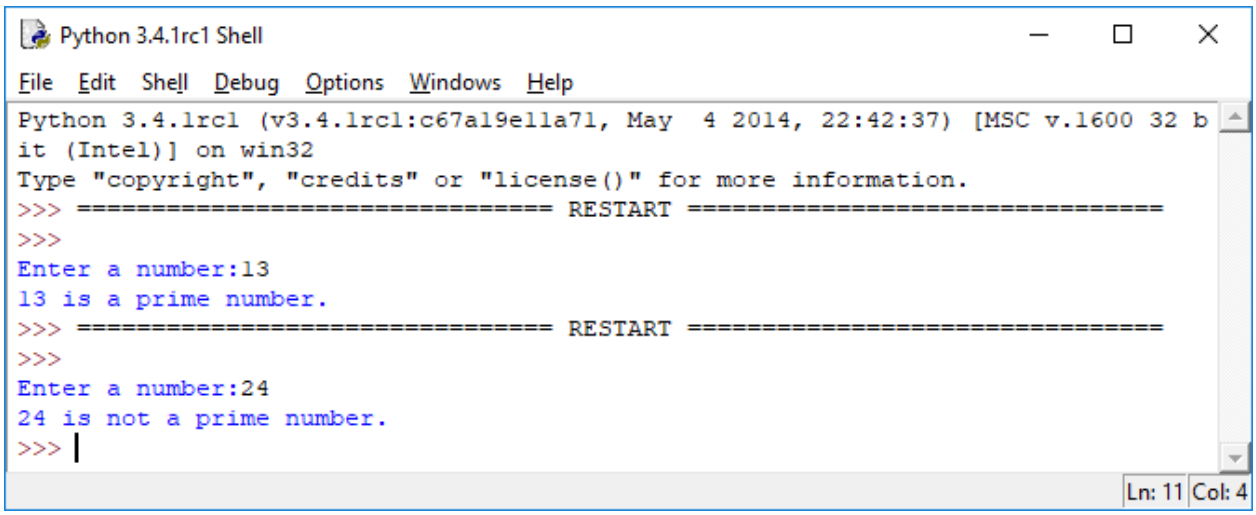


3. **Write a python program to accept a number from the user and display whether it is prime number or not.**

Source code:

```
a=int(input("Enter a number:"))
if a>1:
  for i in range(2,a):
    if (a%i)==0:
       print(a,"is not a prime number.")
       break
    else:
       print(a,"is a prime number.")
       break
else:
   print(a,"is not a prime number.")
```

Output:

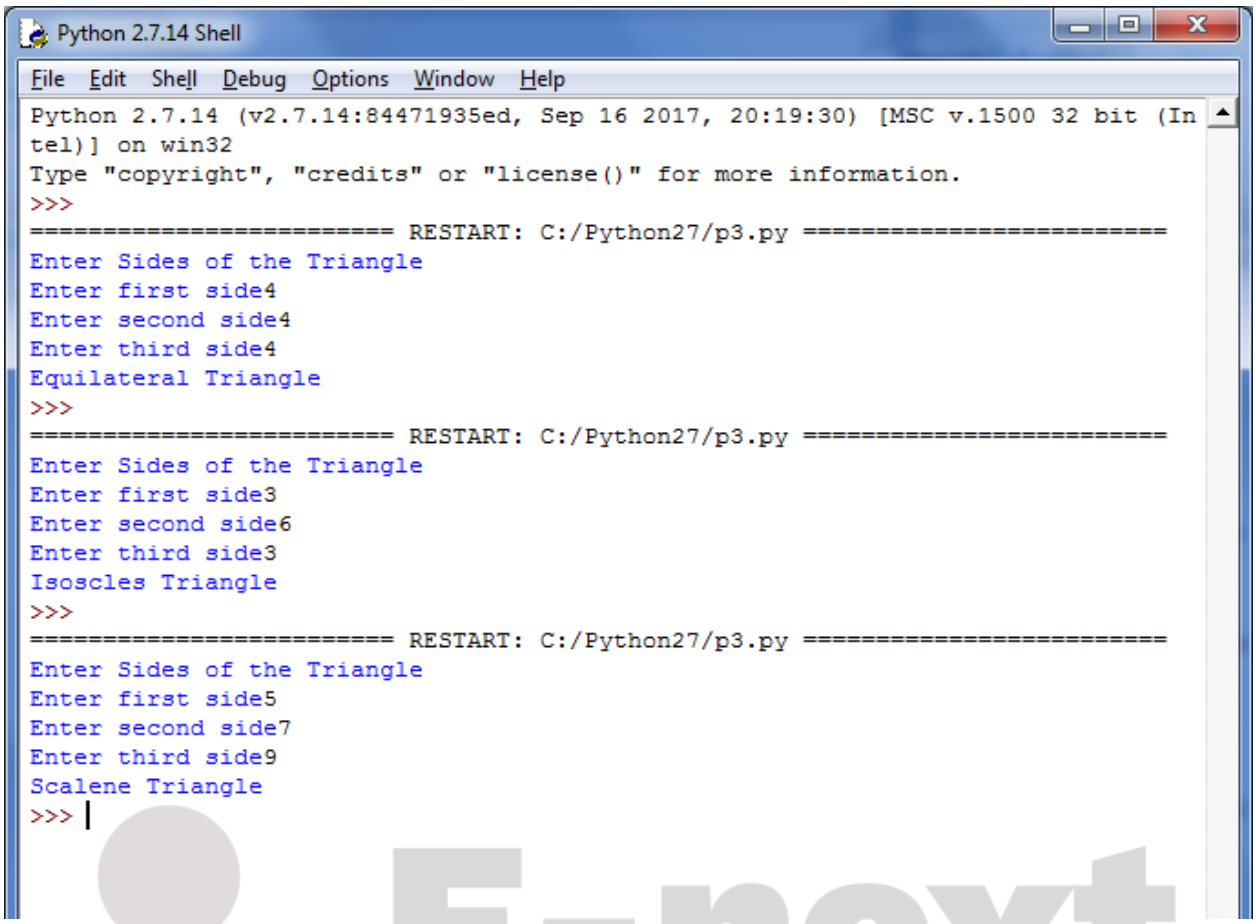


4. **Write a python program to accept the 3 sides of the triangle from the user and display where it scalene, equilateral or isosceles triangle.**

Source code:

```
print("Enter Sides of the Triangle")
a=input("Enter first side")
b=input("Enter second side")
c=input("Enter third side")
if (a==b and b==c):
   print("Equilateral Triangle")
elif (a!=b and b!=c and a!=c):
   print("Scalene Triangle")
else:
   print("Isoscles Triangle")
```

Output:

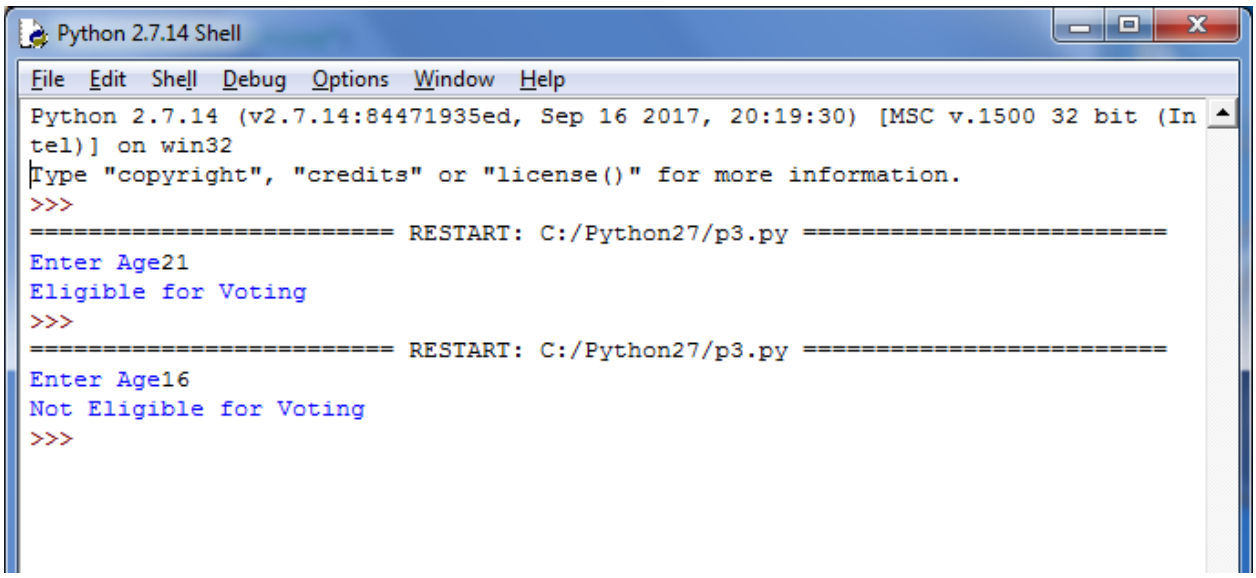


5. **Write a python program to accept the age from the user and display whether he/she is eligible for voting card or not.**

Source code:

```
a=input("Enter Age")
if (a>=18):
   print("Eligible for Voting")
else:
   print("Not Eligible for Voting")
```

Output:



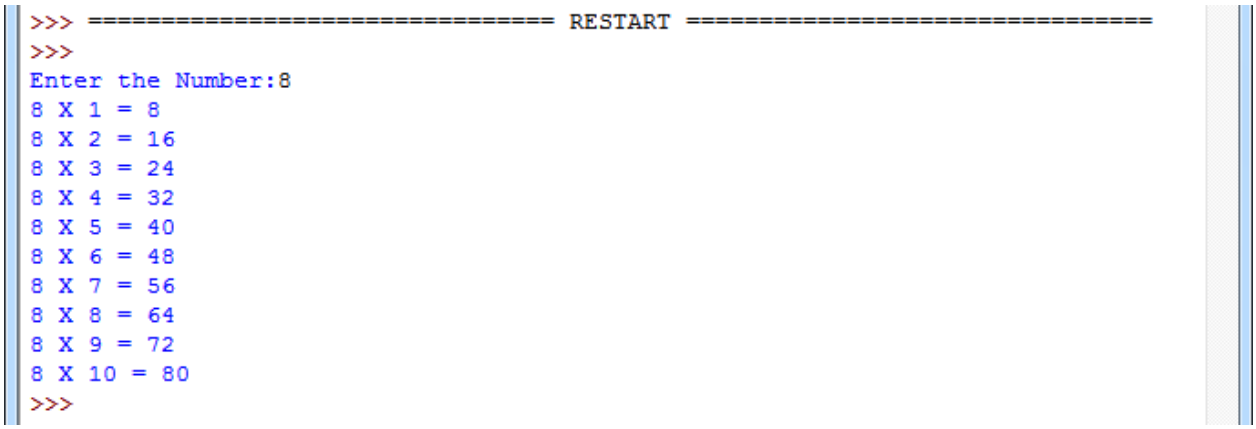
(C) Programs based on for statement

1. **Write a python program to accept a number from the user and display the multiplication table of it.**

   Source code:

```
a=int(input("Enter the Number:"))
for i in [1,2,3,4,5,6,7,8,9,10]:
    mul=a*i
    print(a,"X",i,'=',mul)
```

   Output:



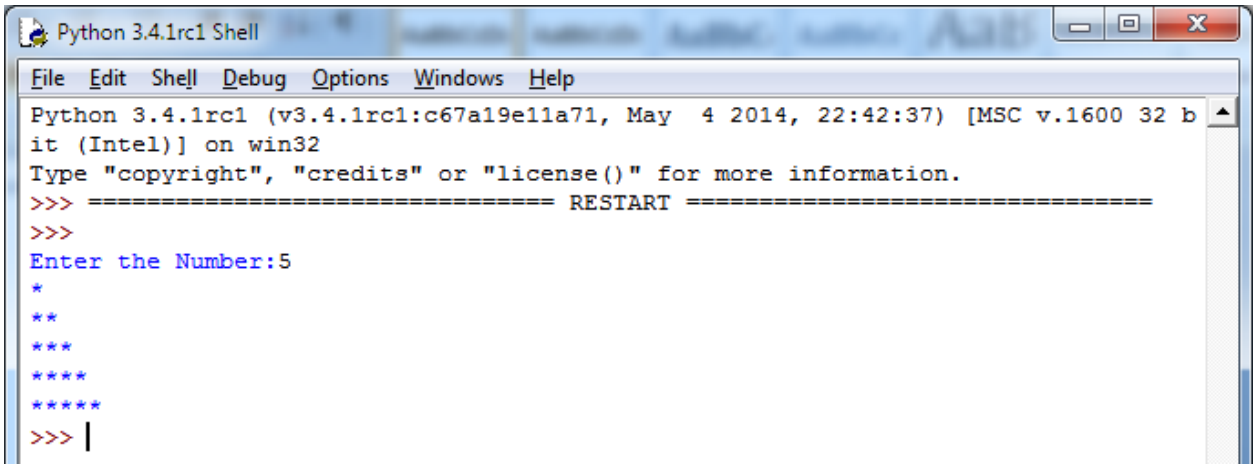
2. **Write a python program to accept a number from the user and display the star pattern upto that number.**

   Source code:

```
a=int(input("Enter the Number:"))
```

```
for i in range(1,a+1):
    print('*'*i)
```

Output:

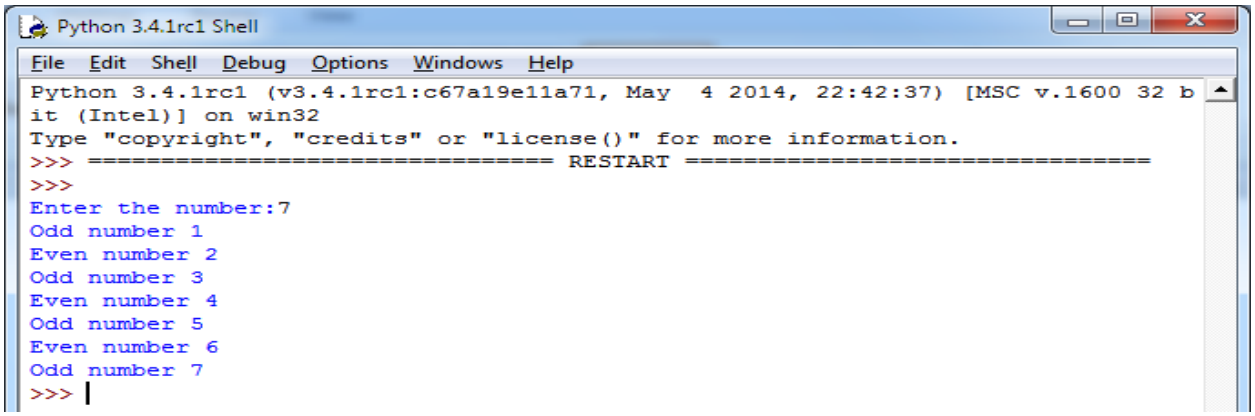


3. **Write a python program to accept a number from the user and display the list of even numbers and odd number upto the number accepted by the user.**

Source code:

```
a=int(input("Enter the number:"))
for i in range(1,a+1):
    if i%2==0:
        print("Even number",i)
    else:
        print("Odd number",i)
```

Output:

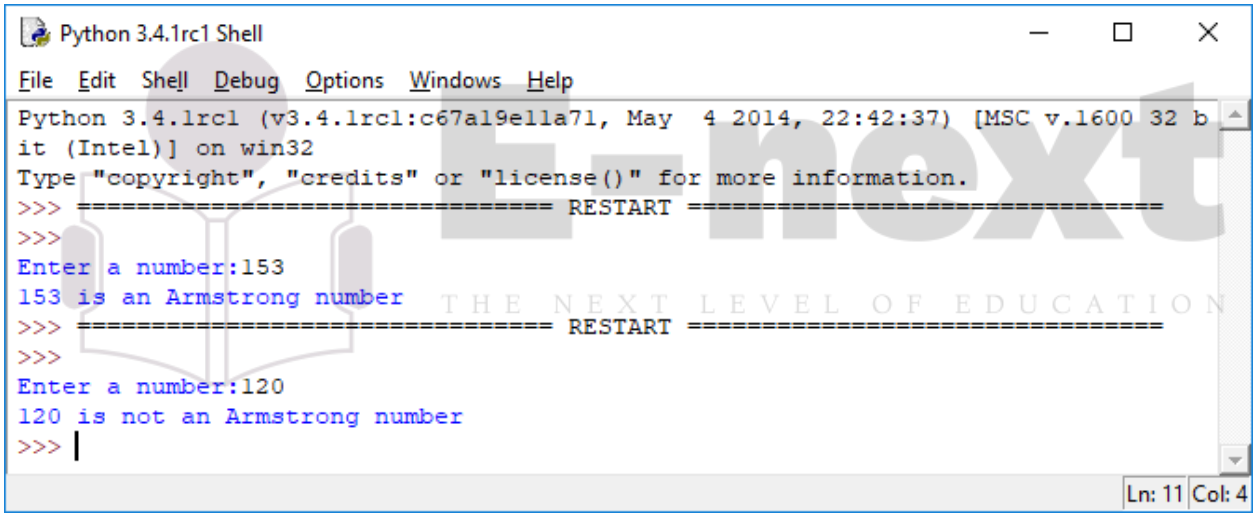


4. Write a python program to accept a number from the user and display the Armstrong number upto that number.

Source code:

```
n=int(input("Enter a number:"))
s=0
t=n
while t>0:
    d=t%10
    s+=d**3
    t//=10
if n==s:
    print(n,"is an Armstrong number")
else:
    print(n,"is not an Armstrong number")
```

Output:

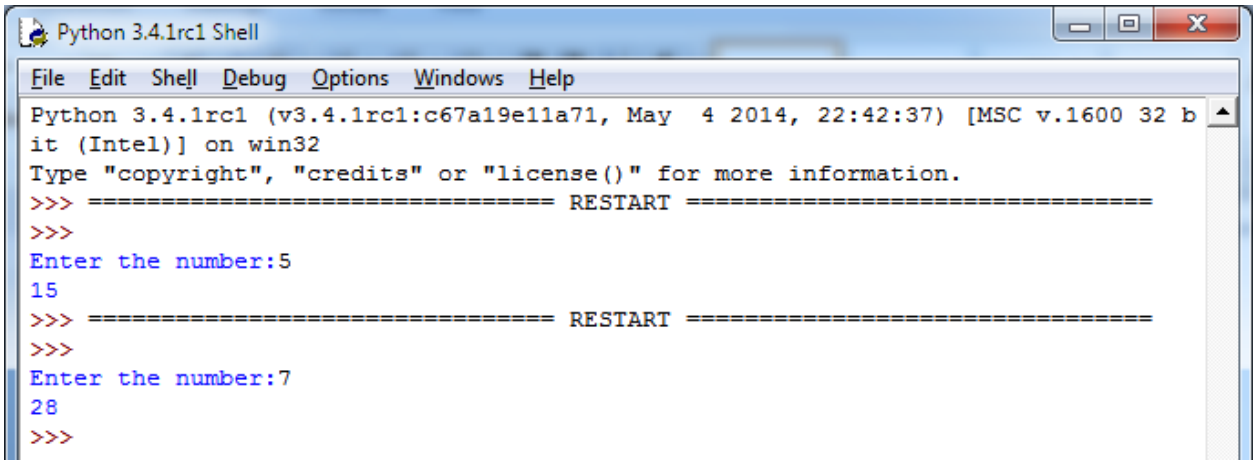


5. Write a python program to display the sum of n integer.

Source code:

```
a=int(input("Enter the number:"))
m=0
for i in range(1,a+1):
    m=i+m
print(m)
```

Output:



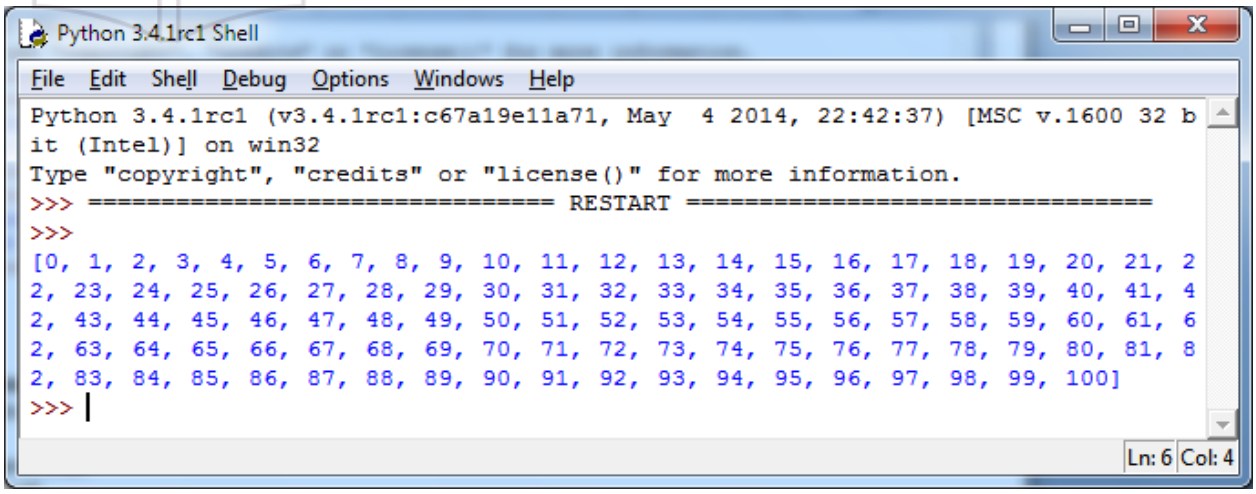
(D) Programs based on range function

1. **Write a python program to display the number from 0 to 100 using range function,**

Source code:

```
num=[]
for i in range(0,101):
    num.append(i)
print(num)
```

Output:



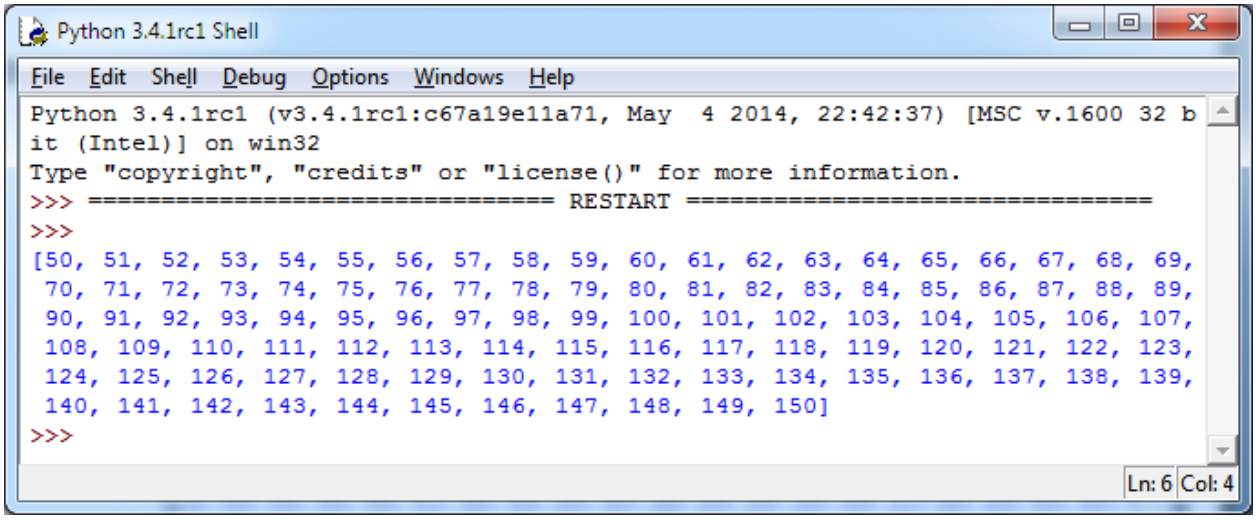
2. **Write a python program to display the numbers from the 50 to 150 using range function.**

Source code:

```
num=[]
for i in range(50,151):
    num.append(i)
```

print(num)

Output:

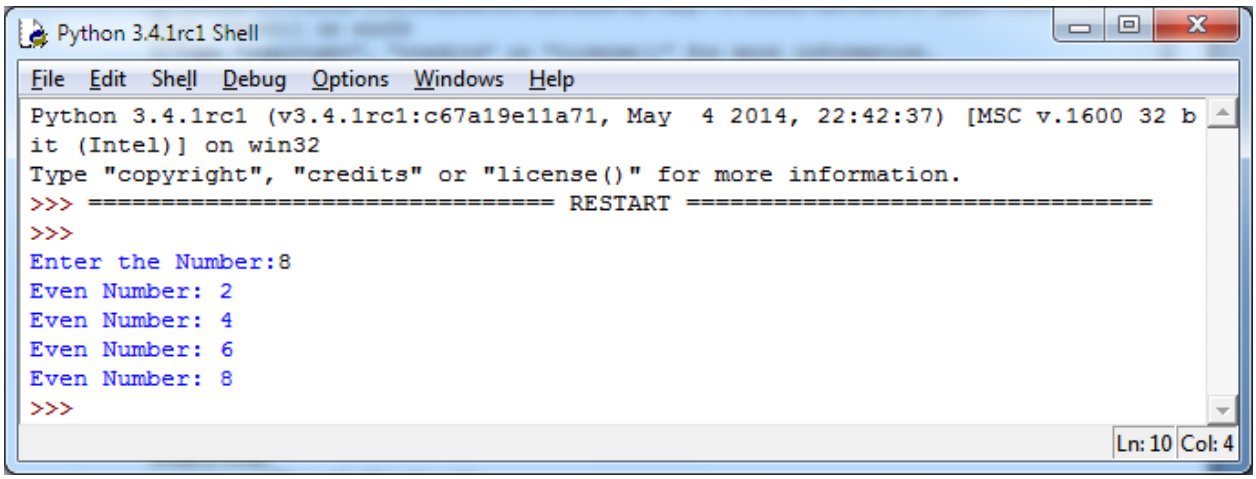


3. Write a python program to display the even numbers upto the limit entered by the user.

Source code:

```
a=int(input("Enter the Number:"))
for i in range(1,a+1):
  if i%2==0:
    print("Even Number:",i)
```

Output:

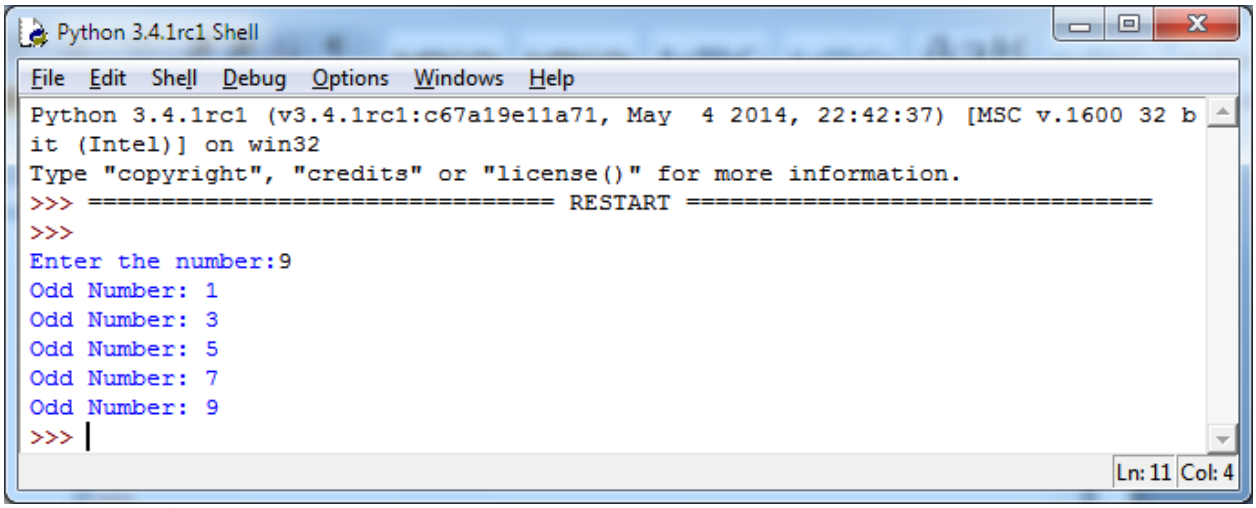


4. Write a python program to display the odd numbers upto the limit entered by the user.

Source code:

```
a=int(input("Enter the number:"))
for i in range(1,a+1):
    if i%2!=0:
        print("Odd Number:",i)
```

Output:

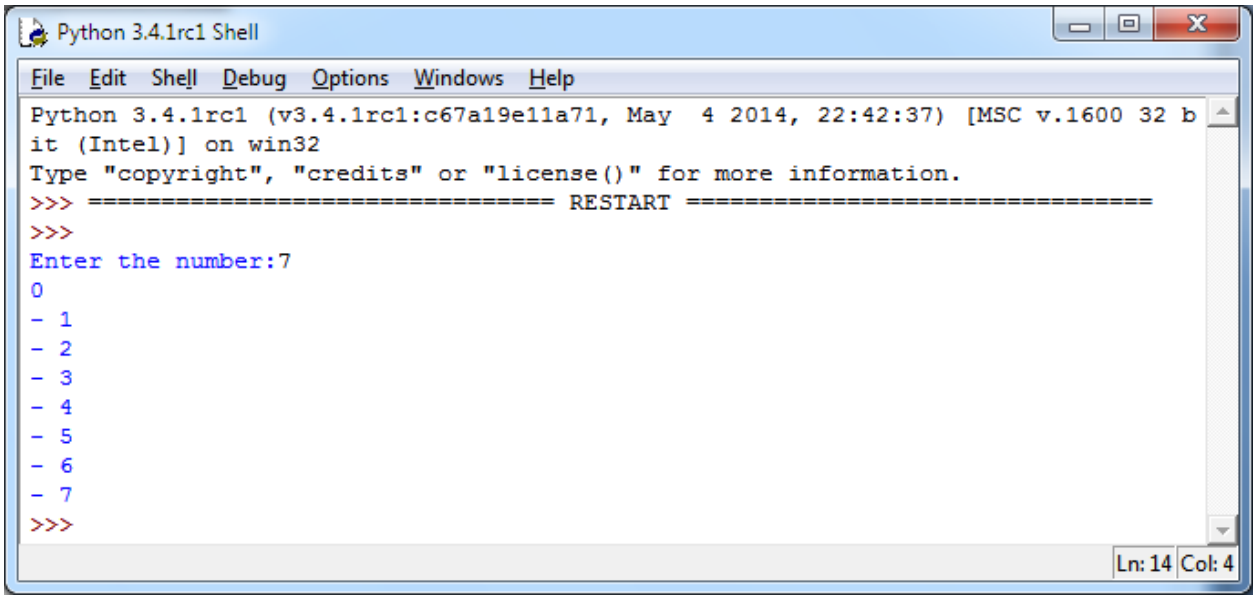


5. **Write a python program to display the negative numbers starting from 0 and going upto the limit entered by the user.**

Source code:

```
a=int(input("Enter the number:"))
print(0)
for i in range(1,a+1):
    print("-",i)
```

Output:



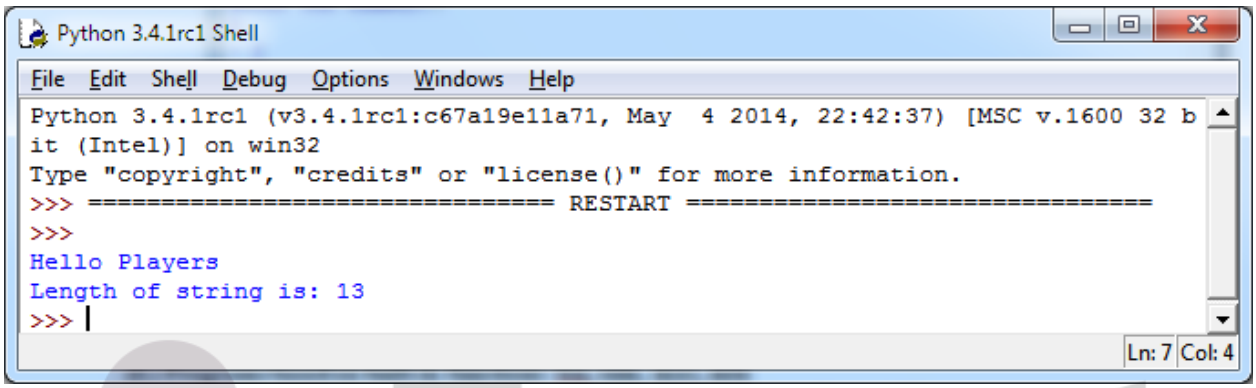
(E) Programs based on built-in functions: len, sum, max, min

1. **Write a python program to display the length of the string stored in variable.**

Source code:

```
a="Hello Players"
b=len(a)
print(a)
print("Length of string is:",b)
```

Output:

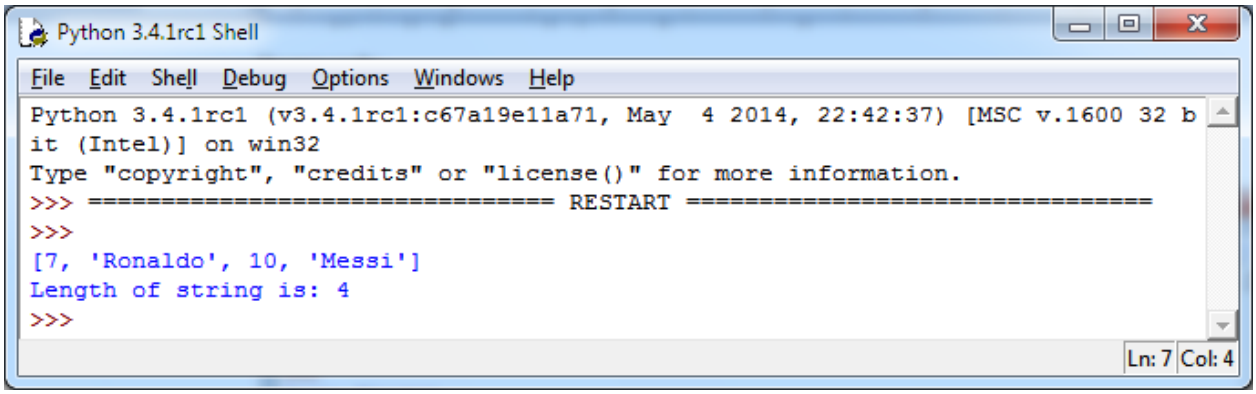


2. **Write a python program to display the length of list**

Source code:

```
a=[7,"Ronaldo",10,"Messi"]
b=len(a)
print(a)
print("Length of string is:",b)
```

Output:



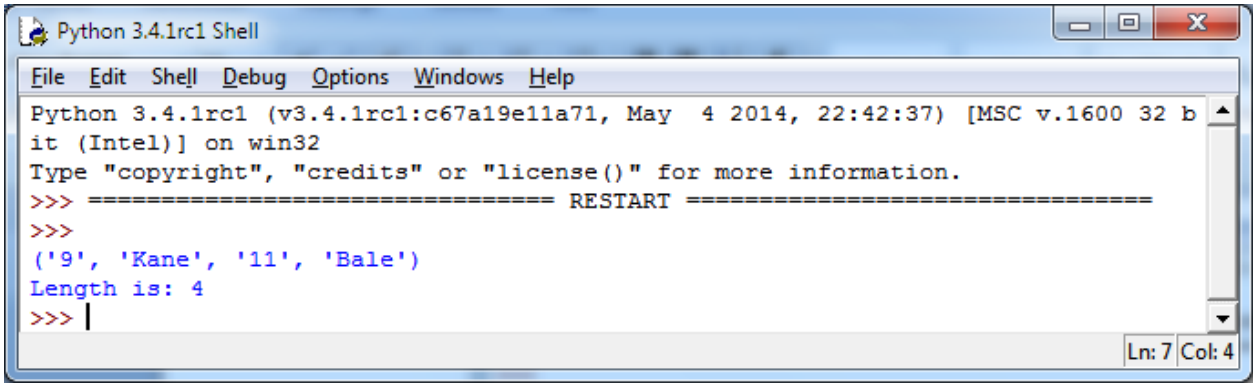
3. Write a python program to display the length of the tuples

Source code:

```
tup=("9","Kane","11","Bale")
b=len(tup)
```

```
print(tup)
print("Length is:",b)
```

Output:

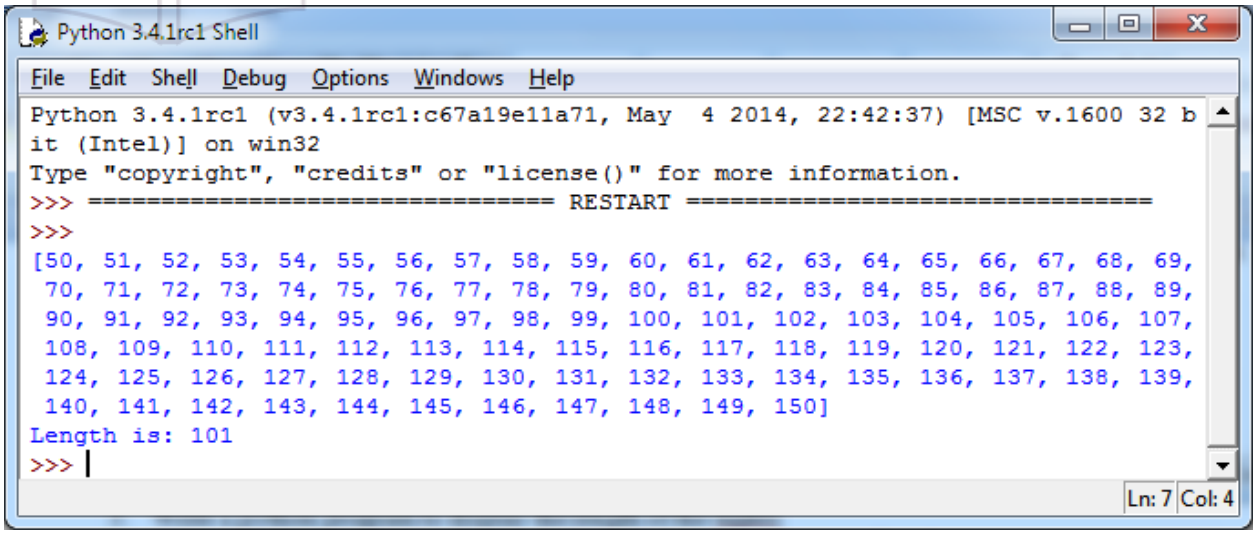


4. Write a python program to display the length of elements in range function.

Source code:

```
num=[]
for i in range(50,151):
   num.append(i)
b=len(num)
print(num)
print("Length is:",b)
```

Output:



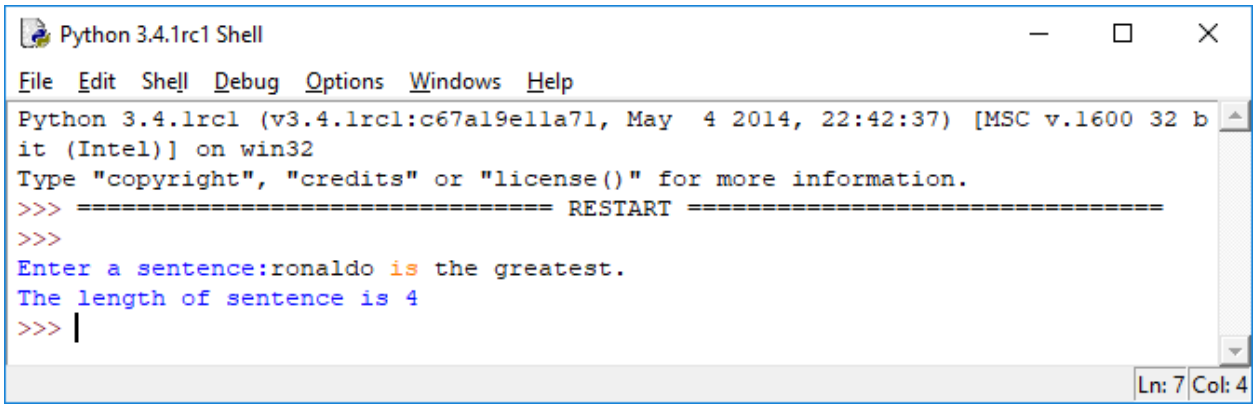
5. Write a python program to display the length of elements in a sentence.

Source code:

```
a=str(input("Enter a sentence:"))
b=len(a)
```

```
n=0
for i in range(0,b):
    if a[i]==' ' or a[i]=='.':
        n=n+1
print('The length of sentence is',n)
```

Output:

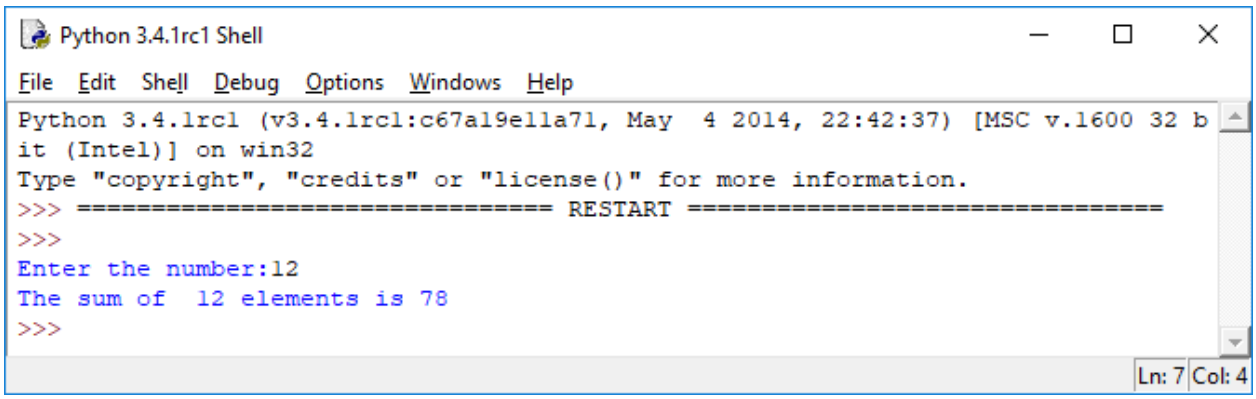


6. Write a python program to display the sum of n elements.

Source code:

```
a=int(input("Enter the number:"))
sum=0
for i in range(1,a+1):
    sum=sum+i
print('The sum of ',a,'elements is',sum)
```

Output:



Practical 4

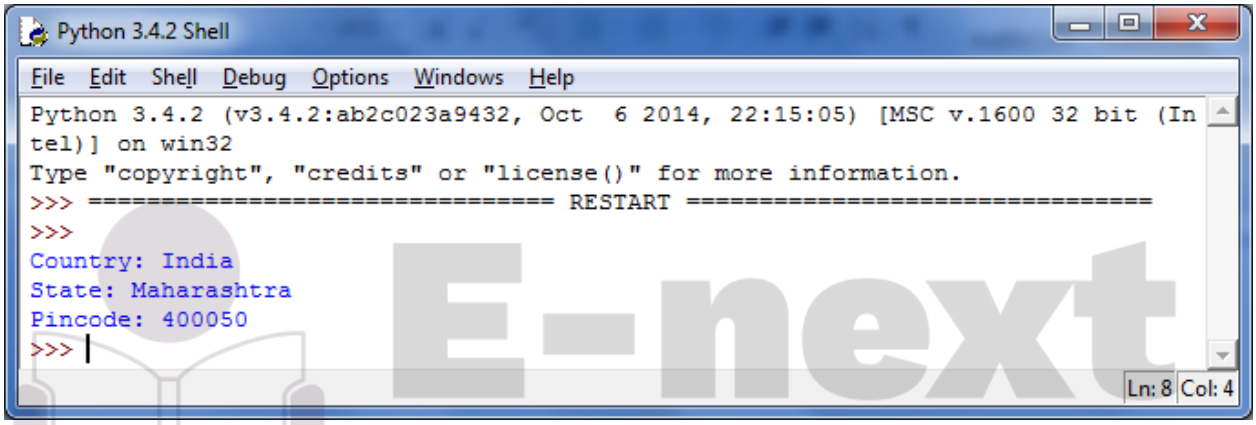
Aim: Programs related to string manipulation

1. **Declare the variable "Country", "State" and "Pincode", store some string values into. write a python program to display the values stored in it.**

   Source code:

```
Country=("India")
State=("Maharashtra")
Pincode=("400050")
print("Country:",Country)
print("State:",State)
print("Pincode:",Pincode)
```

   Output:

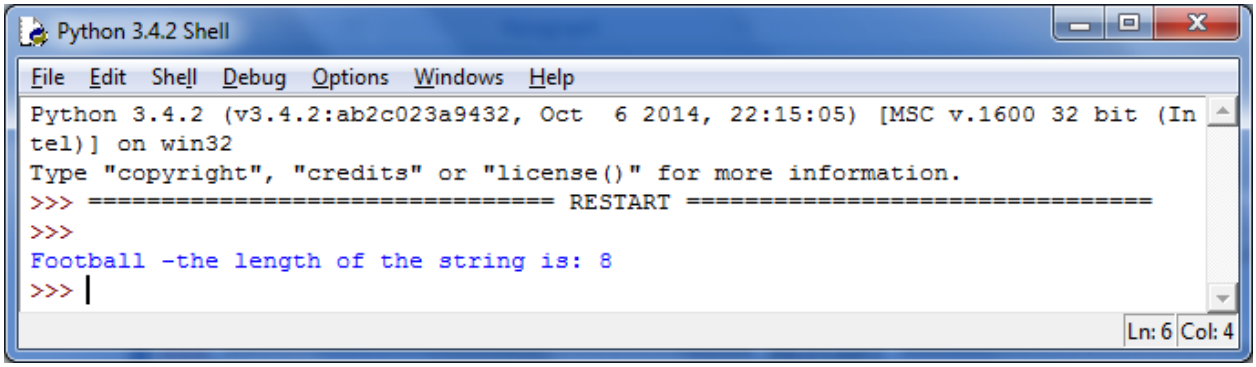


2. **Declare a variable "Games" with some string value in it. Write a python program to display the length of the value stored in the variable.**

   Source code:

```
Games=("Football")
print(Games,"-the length of the string is:",len(Games))
```

   Output:



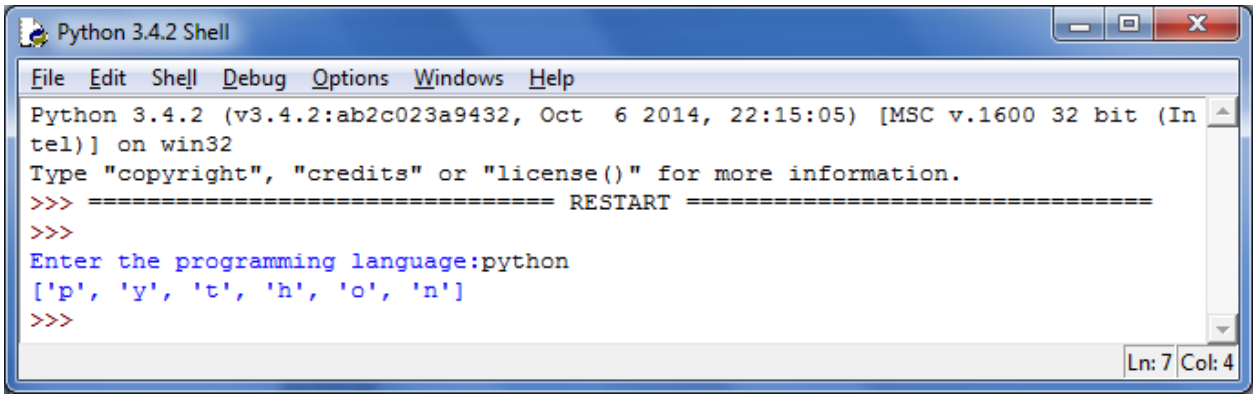
3. **Declare a variable "Programming Language" with some string value in it. Write a python program to print each character of the value stored in the variable.**

   Source code:

```
Programming_language=str(input("Enter the programming language:"))
```

```
a=[]
b=len(Programming_language)
for i in range(0,b):
   a.append(Programming_language[i])
print(a)
```

Output:

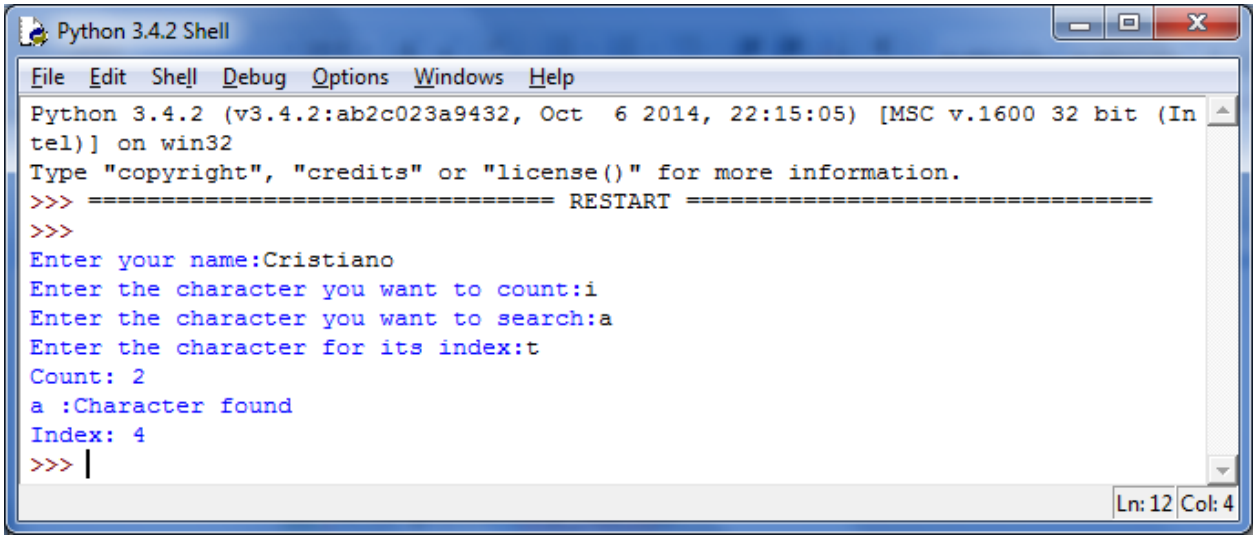


4. **Declare a variable "My_Name" with some string value in it. Write a python program to find the count of specific character present, search for specific character and index of specific character from the value stored in variable.**

Source code:

```
My_Name=str(input("Enter your name:"))
c=str(input("Enter the character you want to count:"))
s=str(input("Enter the character you want to search:"))
ind=str(input("Enter the character for its index:"))
print("Count:",My_Name.count(c))
for i in range(0,len(My_Name)):
   if s==My_Name[i]:
     print(s,":Character found")
print("Index:",My_Name.index(ind))
```

Output:

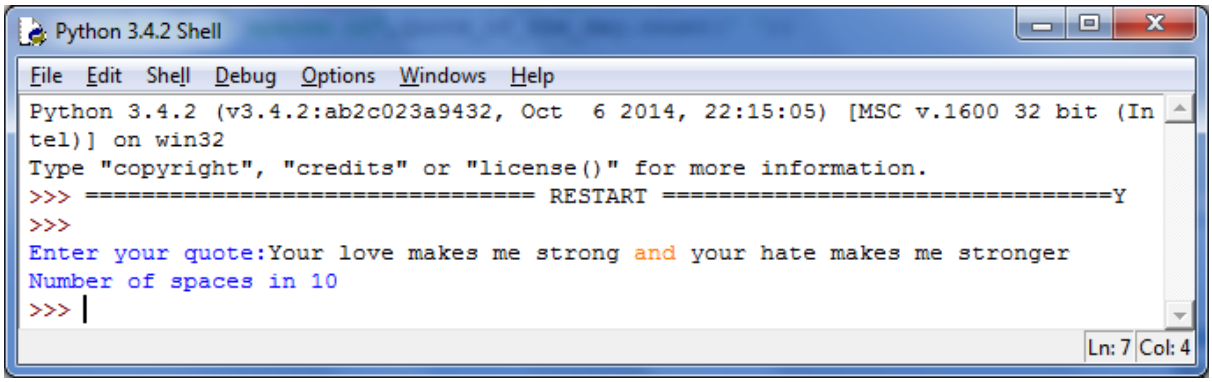


5. **Declare a variable "Quote_of_the_day" with some string typed quote into it. Write a python program to count the number of spaces present in the variable.**

   Source code:

```
Quote_of_the_day=str(input("Enter your quote:"))
print("Number of spaces is",Quote_of_the_day.count(' '))
```

   Output:

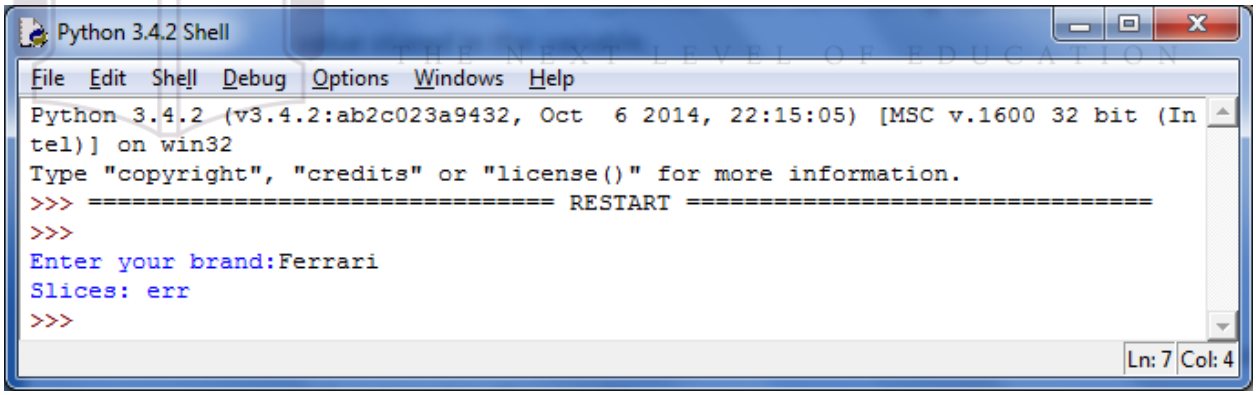


6. **Declare a variable "CAR_BRAND" with some string typed value in it. Write a python program to slice the value stored in the variable.**

   Source code:

```
Car_Brand=str(input("Enter your brand:"))
print("Slices:",Car_Brand[1:4])
```

   Output:

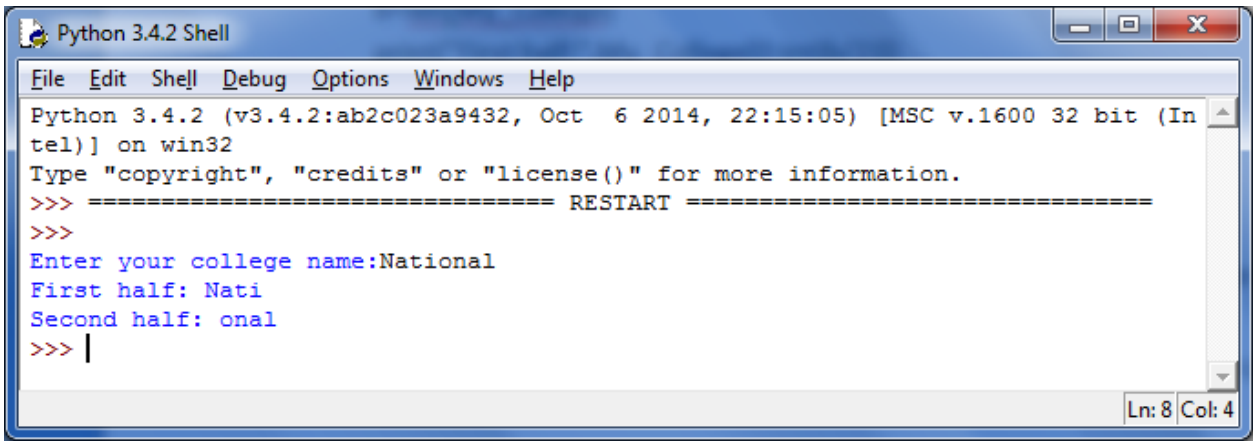


7. **Declare a variable "My_College" with some string typed value in it. Write a python program to Split the value stored in the variable.**

   Source code:

```
My_College=str(input("Enter your college name:"))
b=len(My_College)
print("First half:",My_College[0:int(b/2)])
print("Second half:",My_College[int(b/2):b])
```

   Output:

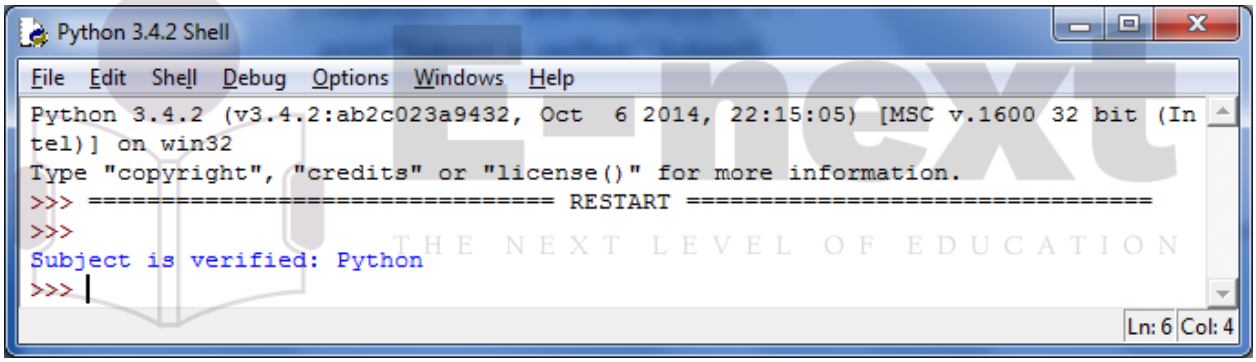


8. **Declare a variable "Subject" with some string typed value in it. Write a python program to verify the starting and ending character of the value stored in the variable.**

   Source code:

```
Subject=("Python")
if Subject[0]=="P" and Subject[5]=="n":
    print("Subject is verified:",Subject)
```

   Output:

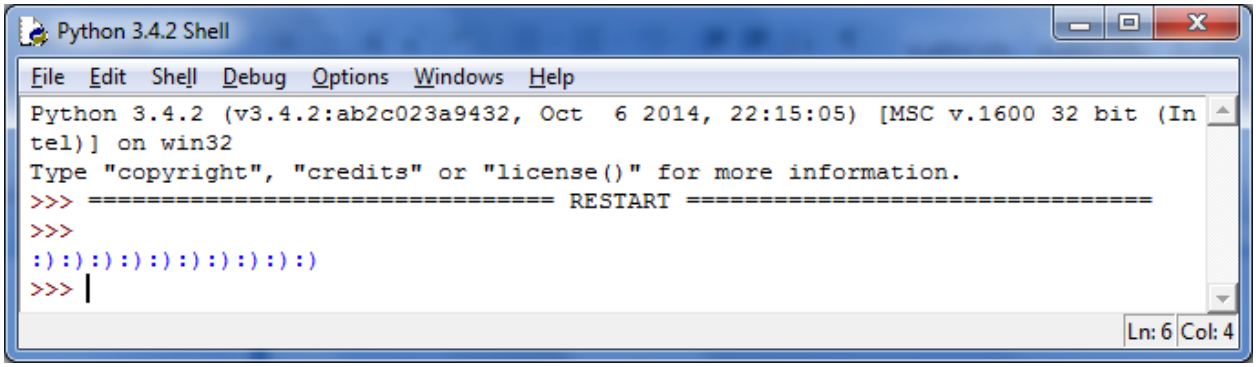


9. **Declare a variable "Pattern" with string value as "☺" into it. Write a python program to multiply this value 10.**

   Source code:

```
Pattern=":)"
print(Pattern*10)
```

   Output:



Practical 5

Aim: Programs based on the while statement; importing and executing built-in functions from the time, math and random modules.

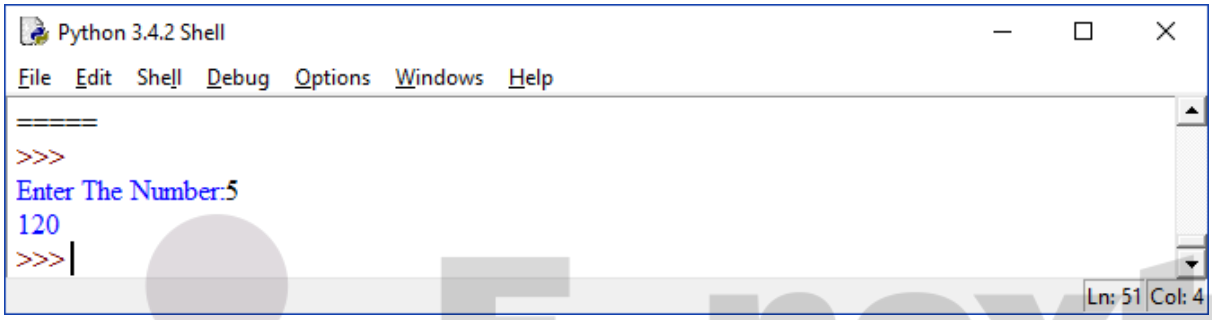
(A) Programs based on the while statement

5.1 Write a python program to display factorial of a number.

CODE:

```
n=int(input("Enter The Number:"))
a=1
while(n>=1):
a=a*n
n=n-1
print(a)
```

OUTPUT:

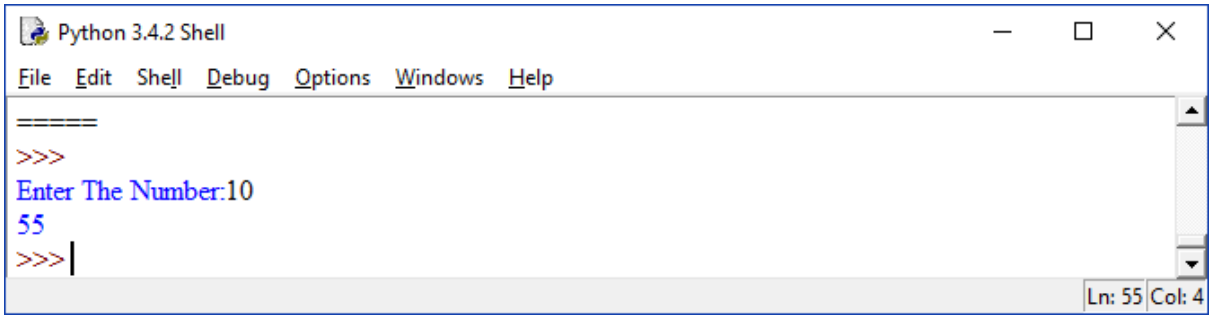


5.2 Write a python program to find sum of n numbers.

CODE:

```
n=int(input("Enter The Number:"))
sum=0
while(n>=1):
  sum=sum+n
  n=n-1
print(sum)
```

OUTPUT:



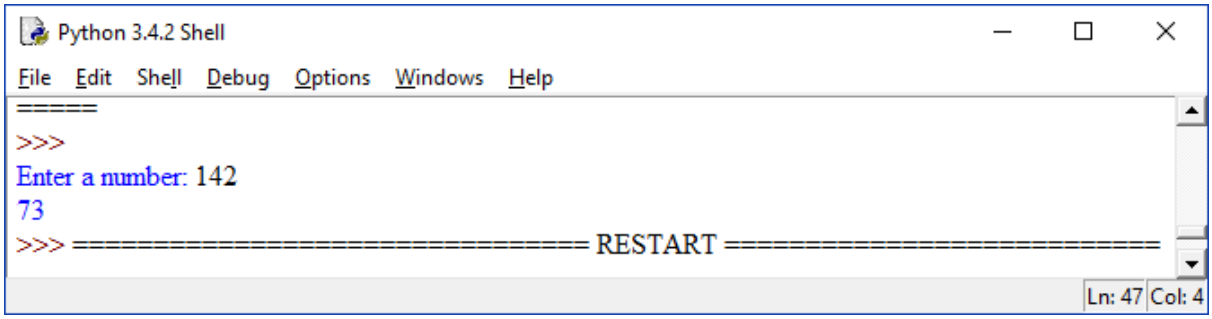
5.3 Write a python program to find sum of 3 digit number.

CODE:

```
num = int(input("Enter a number: "))
sum = 0
a = num
while a > =1:
digit = a % 10
```

```
sum =sum+digit
temp //= 10
print(sum)
```

OUTPUT:



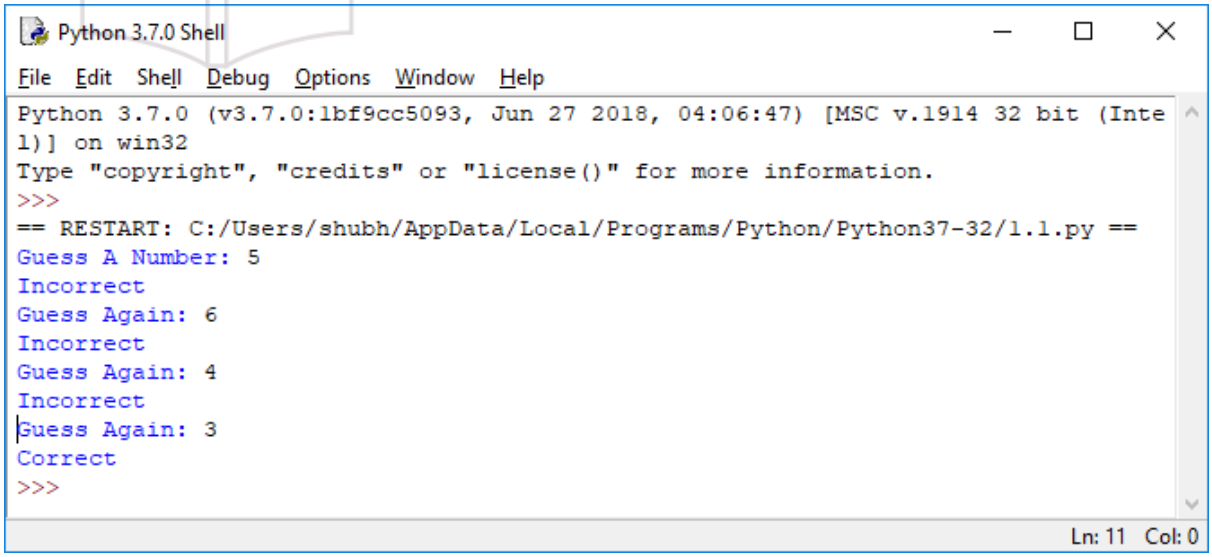
5.4 Write a Python program to guess a number between 1 to 9.

Note: User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit.

CODE:

```
n=int(input("Guess A Number: "))
import random
ran_num=random.choice(range(1,10))
while n!=ran_num:
   print("Incorrect ")
   n=int(input("Guess Again: "))
else:
   print("Correct ")
```

OUTPUT:

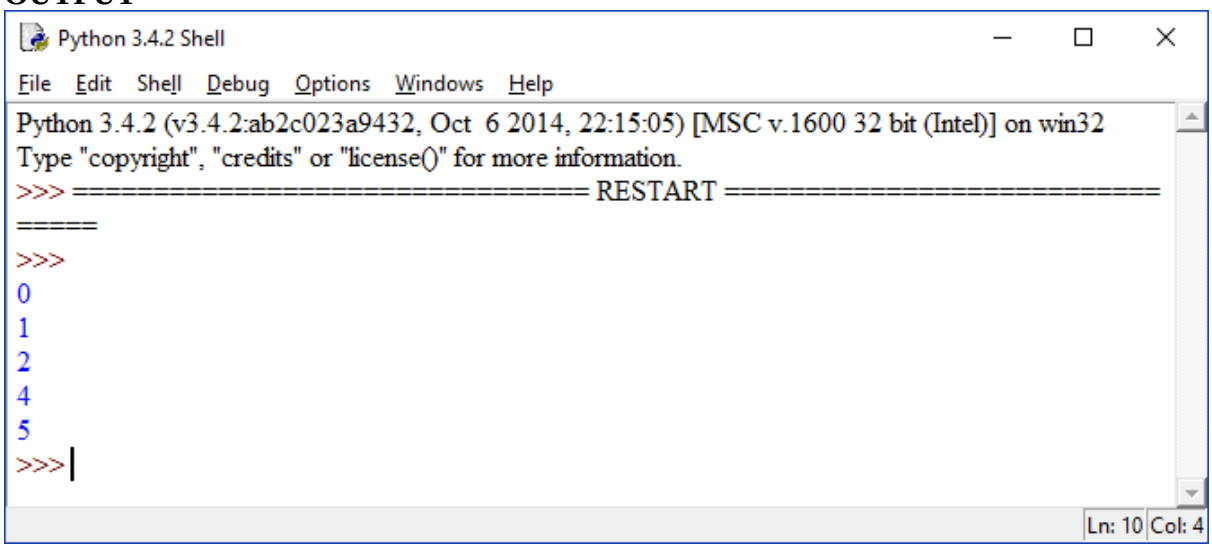


5.5 Write a Python program that prints all the numbers from 0 to 6 except 3 and 6

CODE:

```
for i in range(0,7):
        if i==3 or i==6:
        Continue
        print(i)
```

OUTPUT

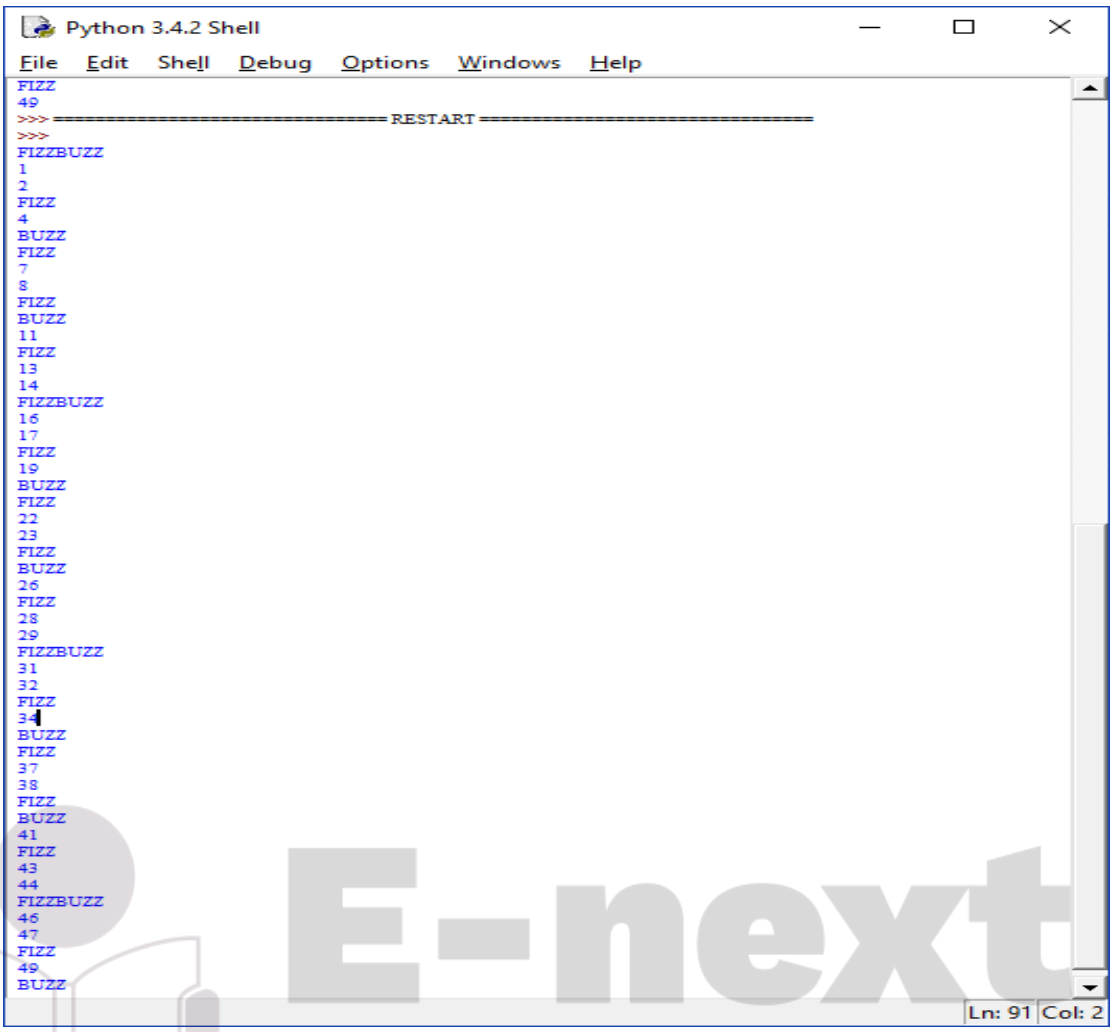


5.6 Write a Python program which iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".(use for loop)

CODE:

```
for i in range(0,51):
  if (i%3==0) and (i%5==0):
    print("FIZZBUZZ")
  elif (i%3==0):
    print("FIZZ")
  elif (i%5==0):
    print("BUZZ")
  else:
    print(i)
```

OUTPUT:



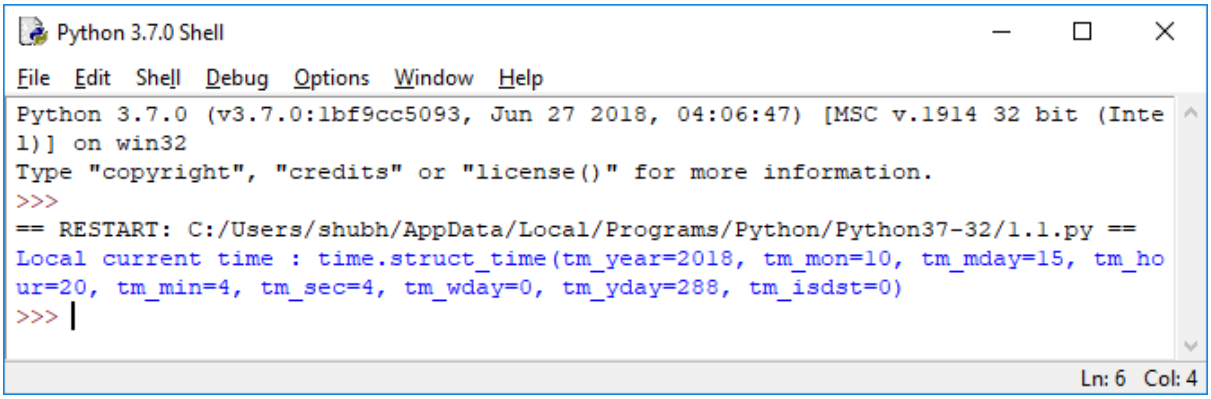
(B) Programs based on Importing and executing built-in functions from the time

5.7 Write a python program to display the current system time

CODE:

```
import time

localtime = time.localtime(time.time())
print ("Local current time :", localtime)
```

OUTPUT:



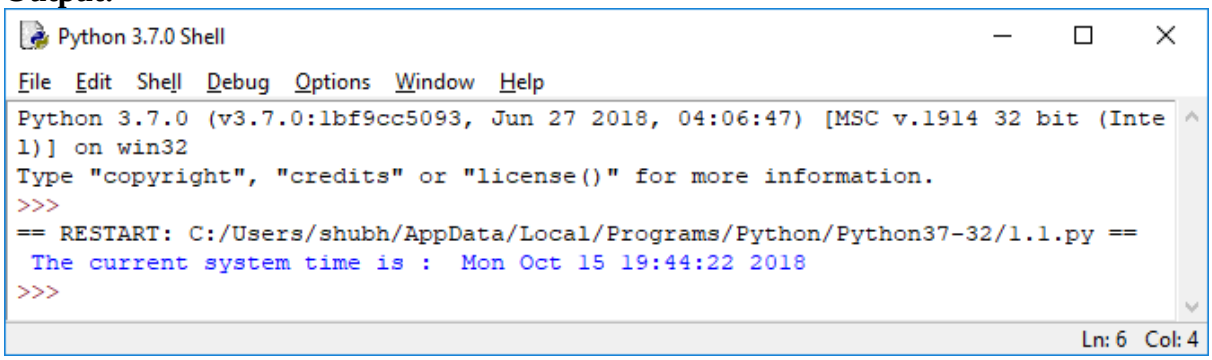
5.8 write a python program to print the current time of the system in a formatted format

Code:

```
import time;
localtime=time.ctime()
```

print(" The current system time is : ",localtime)

Output:



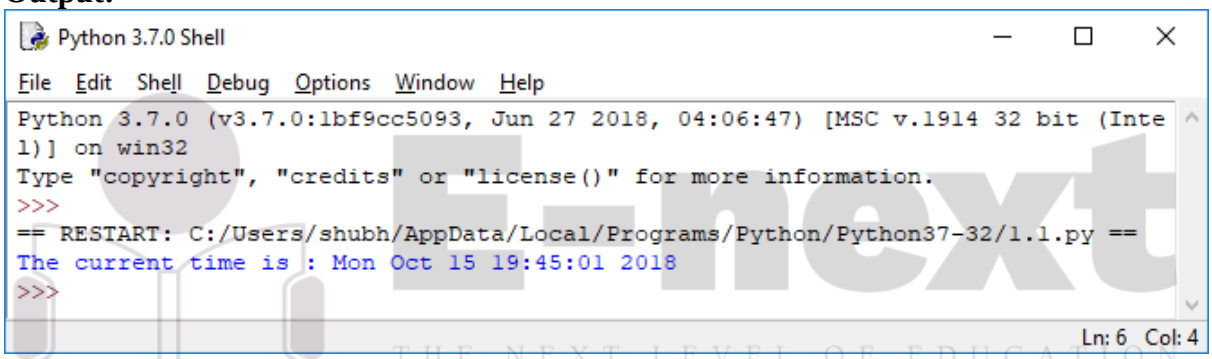
5.9 write a python program to print the current time of the system in a human readable format

Code:

import time

print('The current time is :', time.ctime())

Output:



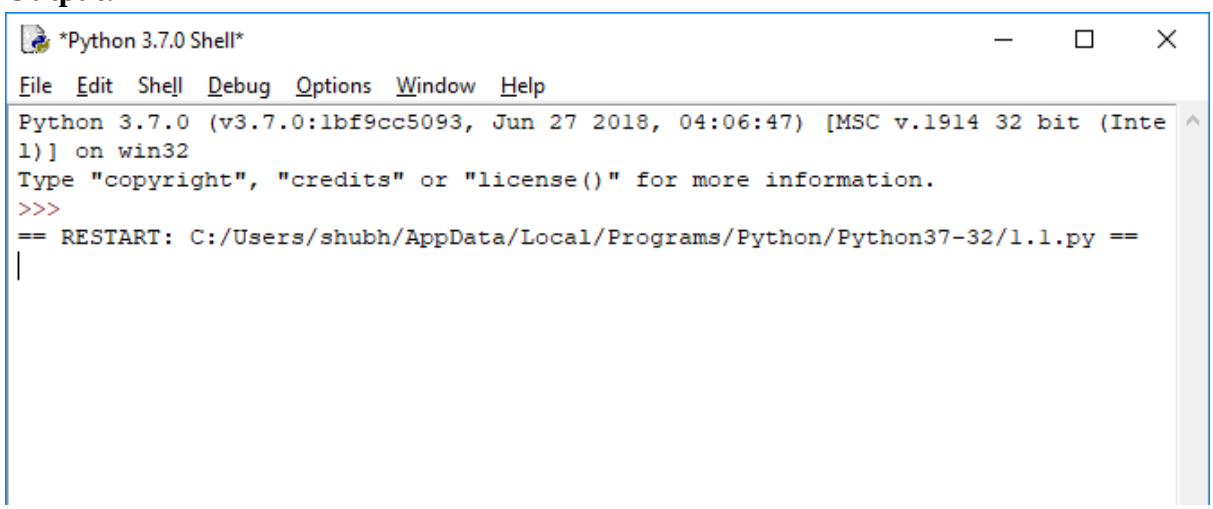
5.10 write a python program to demonstrate the working of sleep.

Code:

Import time

time.sleep(5)

Output:



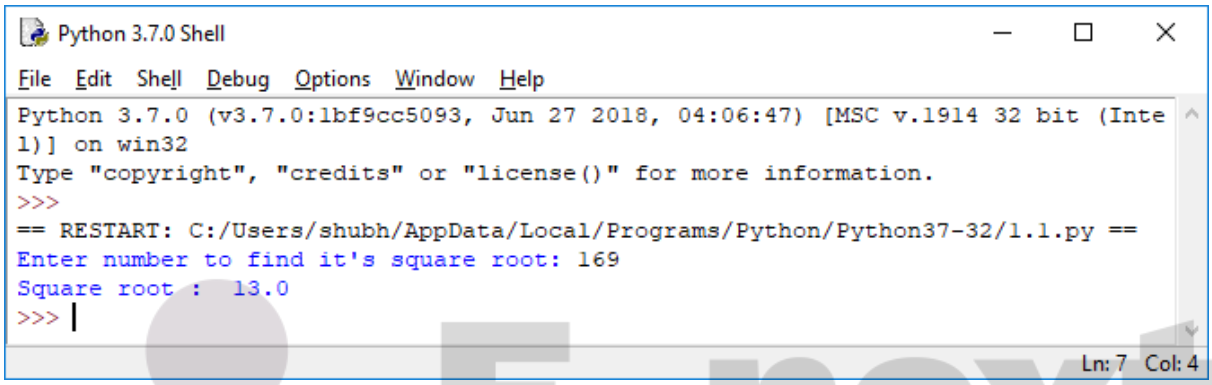
(c) Programs based on Importing and executing built-in functions from the math and random.

5.11 write a python program find square root of a number.

Code:

```
import math

n=int(input("Enter number to find it's square root: "))

print("Square root : ",math.sqrt(n))
```

Output:

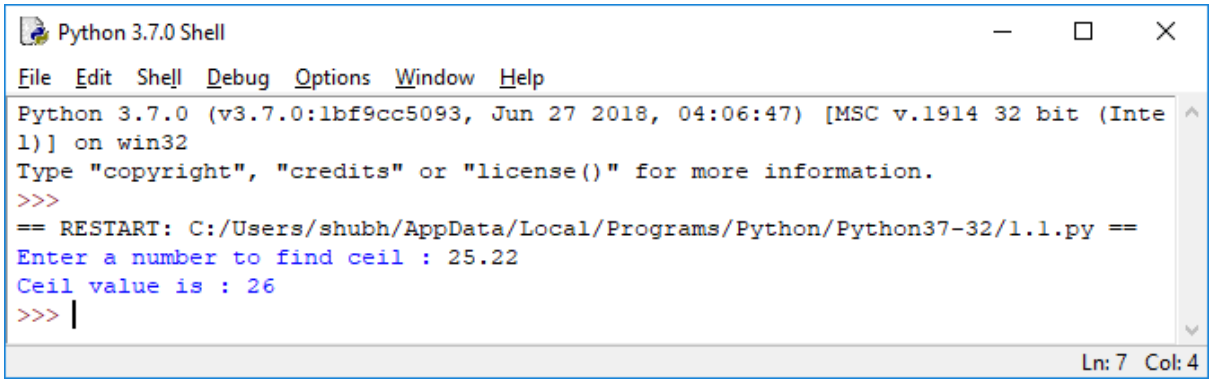


5.12 write a python program find ceil of a number.

Code:

```
import math

n=float(input("Enter a number to find ceil : "))

print("Ceil value is :",math.ceil(n))
```

Output:



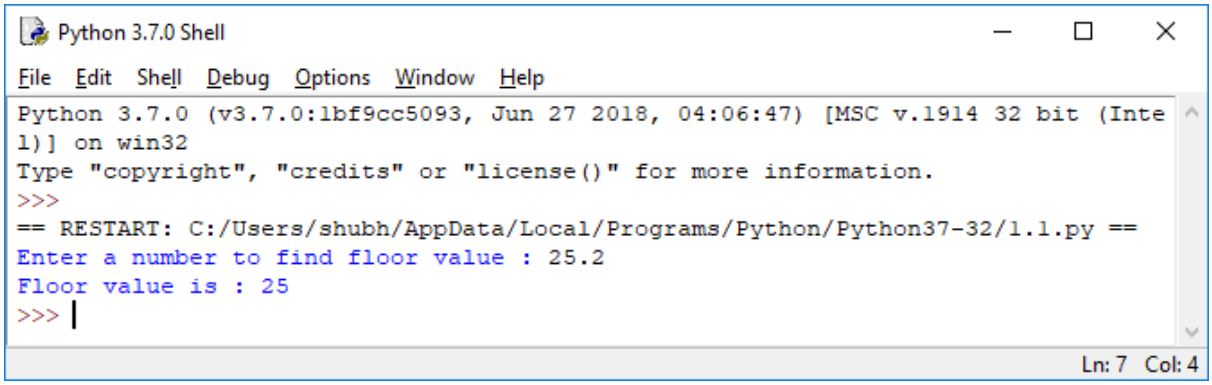
5.13 write a python program find floor of a number.

Code:

```
import math
```

```
n=float(input("Enter a number to find floor value : "))

print("Floor value is :",math.floor(n))
```

Output:

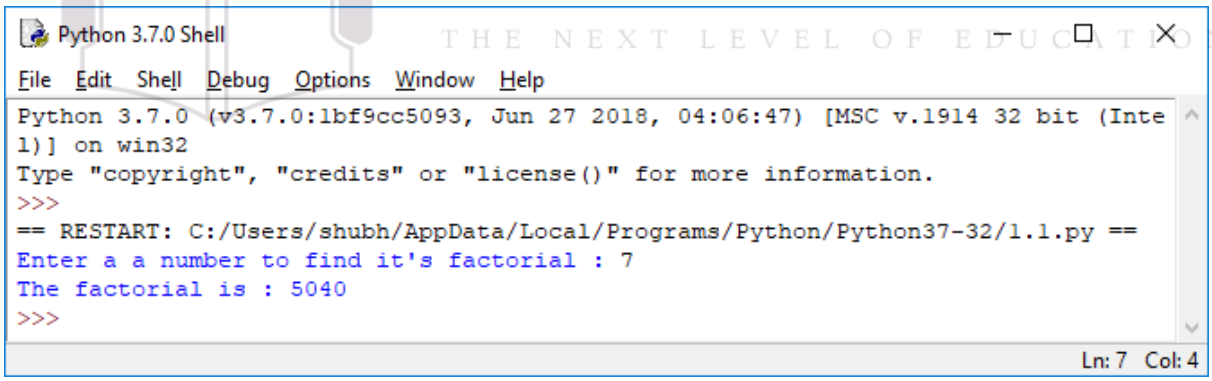


5.14 write a python program find factorial of a number.

Code:

```
import math

n=float(input("Enter a a number to find it's factorial : "))

print("The factorial is :",math.factorial(n))
```

Output:

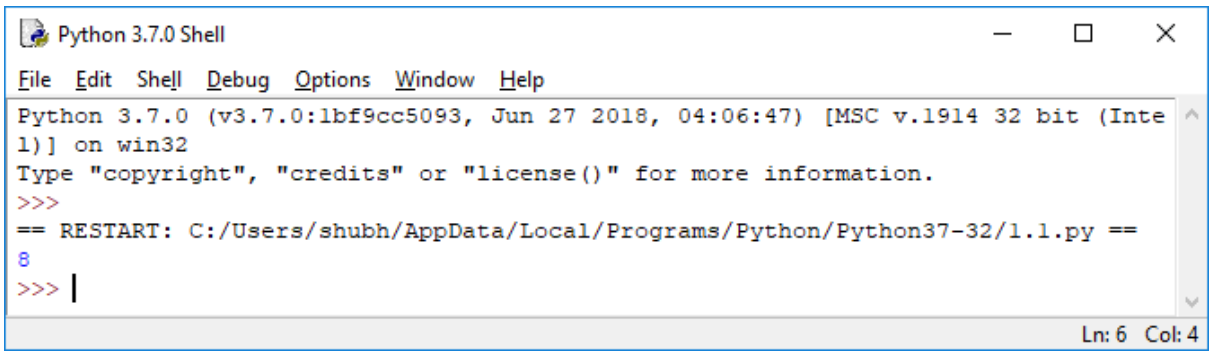


5.15 write a python program to print random integer numbers between 1 to 100.

Code:

```
import random

print(random.randint(1,100))
```

Output:

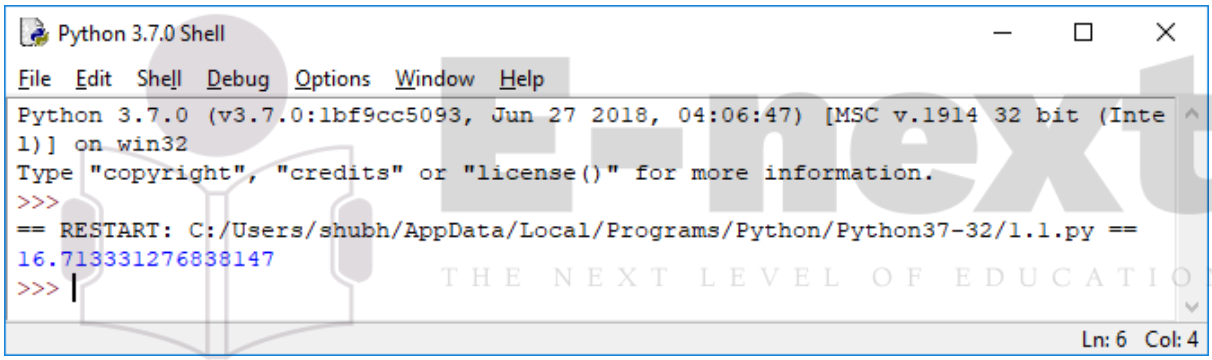


5.16 write a python program to print random float numbers between 10 to 20.

Code:

```
import random

print(random.uniform(10,20))
```

Output:



Practical 6

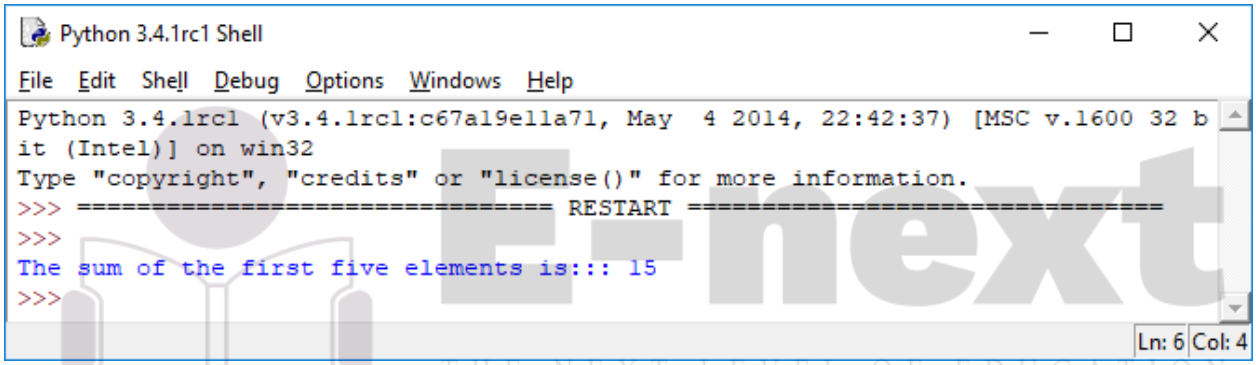
Aim: Programs using break and continue statements

6.1 Define a tuple with 10 elements. Find the addition of first 5 elements of the tuple.

Source code:

```
tup=(1,2,3,4,5,6,7,8,9,10)
s=0
for i in range(0,5):
    s=s+tup[i]
print("The sum of the first five elements is:::",s)
```

Output:

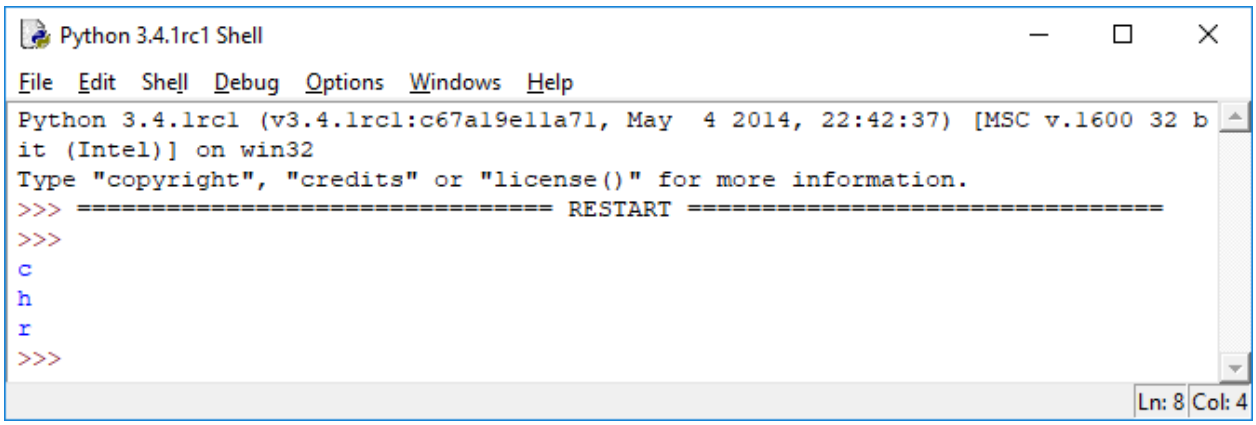


6.2 Define a variable of string type. Print all the words in the variable up till the letter "i" occurs.

Source code:

```
name='chris'
for a in name:
    if a=='i':
        break
    print(a)
```

Output:

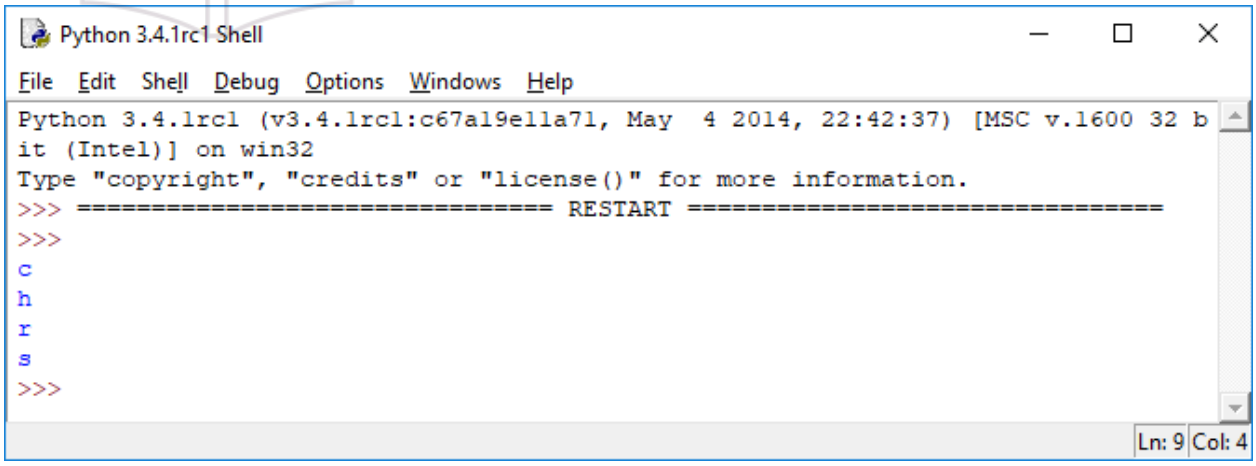


6.3 Define a variable of string type. Print all the words in the variable except the letter "i" occurs.

Source code:

```
name='chris'
for a in name:
    if a=='i':
        continue
    print(a)
```

Output:



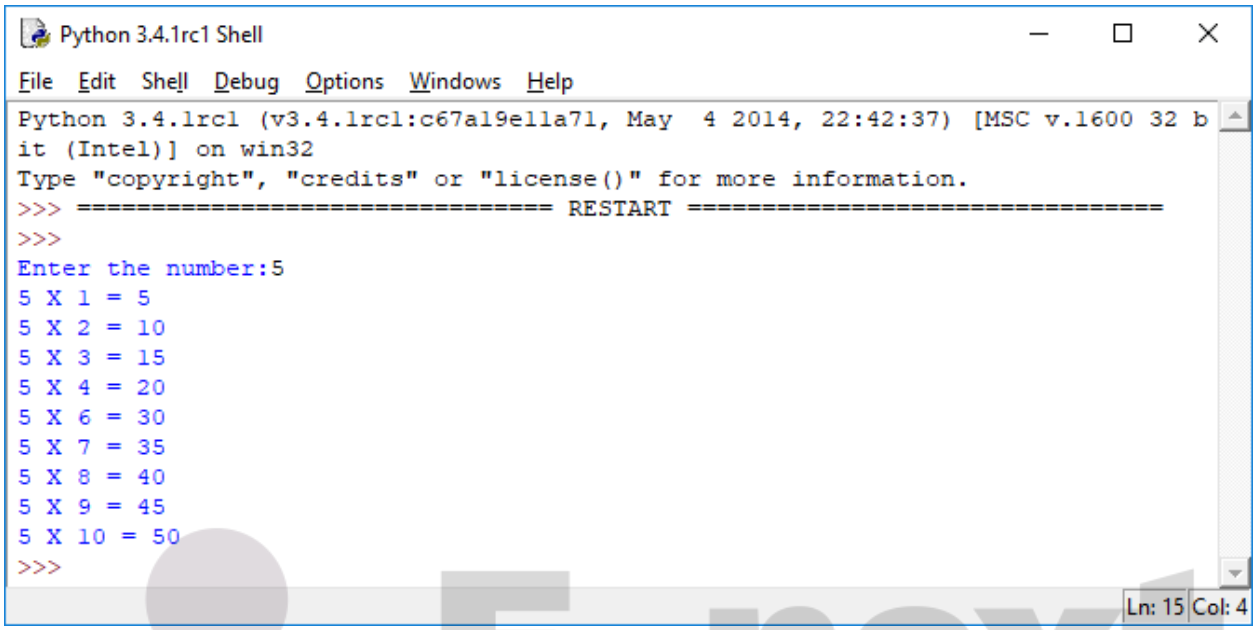
6.4 write a python program to print multiplication table of a user define number. Print table upto nX10=N except nX5=N.

Source code:

```
a=int(input("Enter the number:"))
for i in range(1,11):
```

```
    if i==5:
        continue
    print(a,'X',i,'=',a*i)
```

Output:



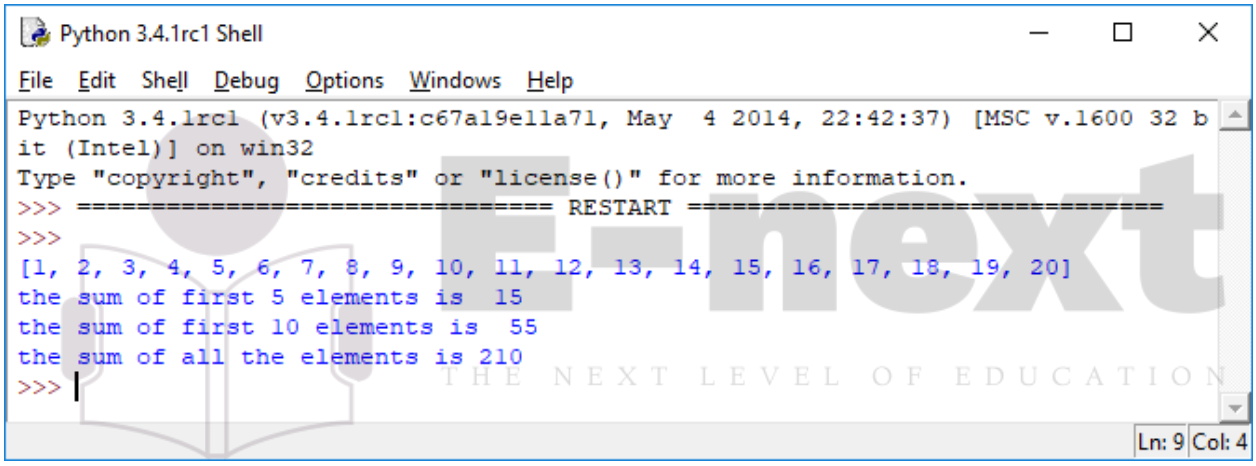
6.5 Define a list with 20 elements into it. Display the addition of First 5 elements, then display the addition of next 10 elements later all the 20 elements .

Source code:

```
a=[]
sum=0
for i in range(1,21):
    a.append(i)
print(a)
for i in range(0,len(a)):
    if i==5:
        break
    sum=sum+a[i]
print("the sum of first 5 elements is ",sum)
sum=0
```

```
for i in range (0,len(a)):
    if i==10:
        break
    sum=sum+a[i]
print("the sum of first 10 elements is ",sum)
sum=0
for i in range (0,20):
    sum=sum+a[i]
print("the sum of all the elements is",sum)
```

Output:



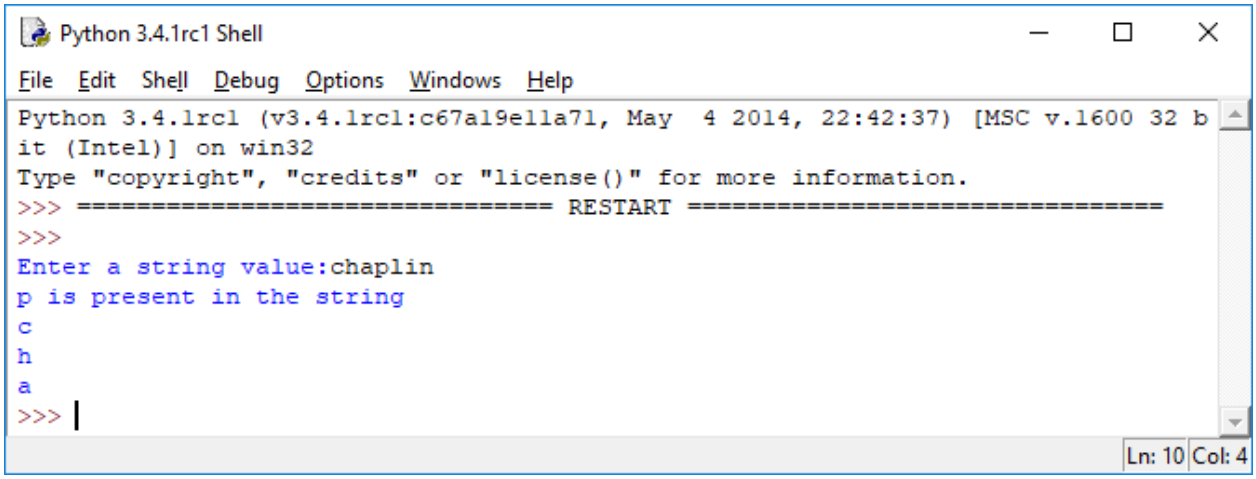
6.6 Write a python program to take a string input from the user and decide whether the character 'p' is present in the string. Print all the characters until 'p' and come out of the loop as and when 'p' is found.

Source code:

```
a=str(input("Enter a string value:"))
for i in a:
    if i=="p":
        print("p is present in the string")
for i in a:
    if i=="p":
        break
```

```
    print(i)
```

Output:

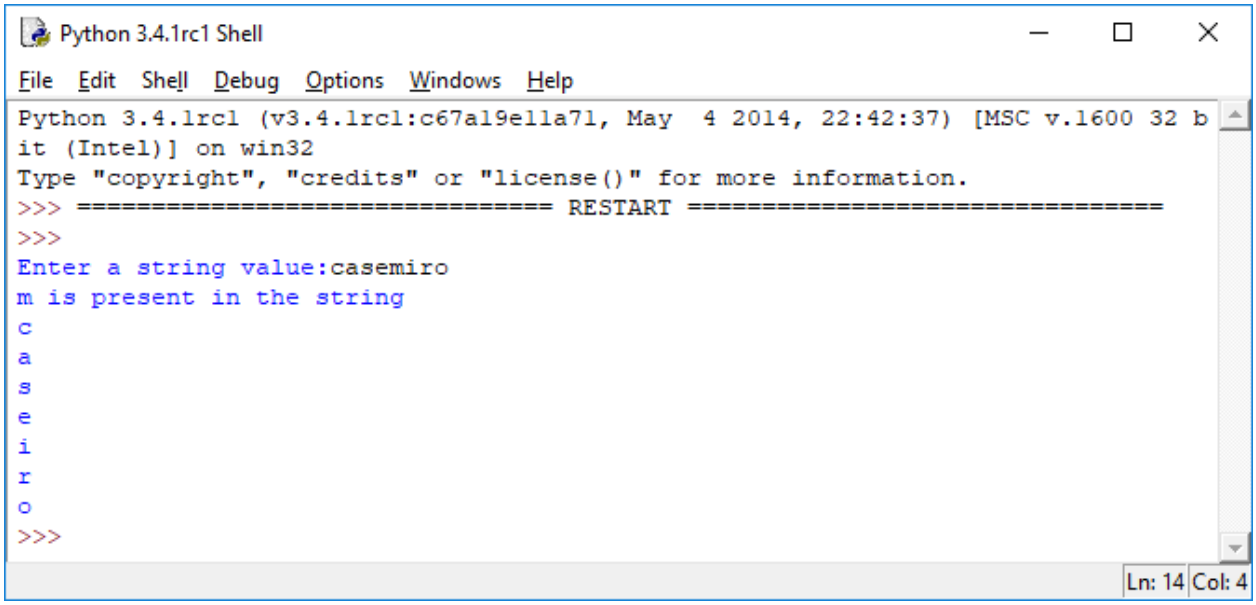


6.7 Write a python program to read a user defined string. Start reading each character of the string, identify the letter 'm', skip the letter and print the remaining string.

Source code:

```
a=str(input("Enter a string value:"))
for i in a:
    if i=="m":
        print("m is present in the string")
for i in a:
    if i=="m":
        continue
    print(i)
```

Output:



Practical 7

Aim: Programs related to dictionaries.

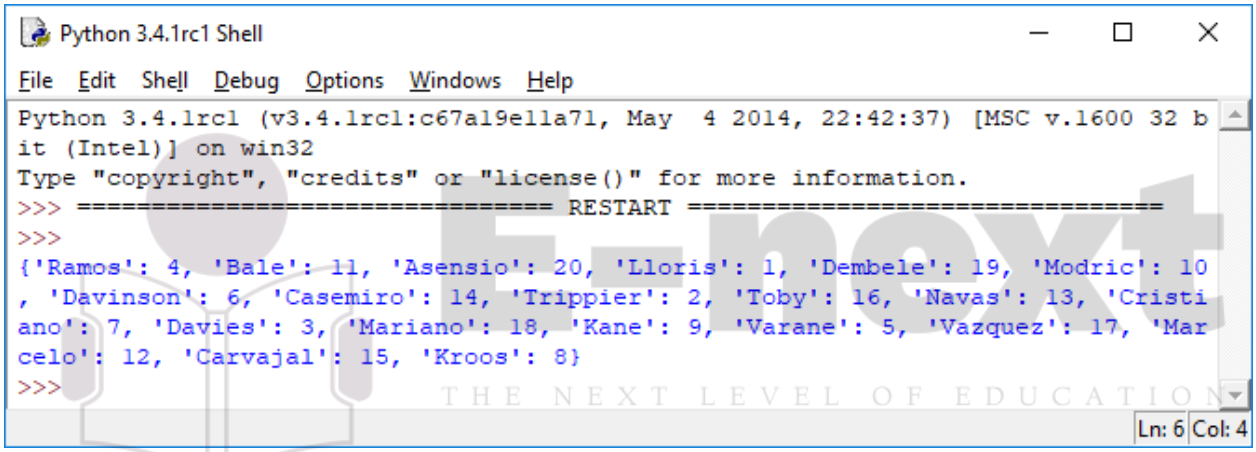
A college has 20 students for a particular course:

7.1 Create a dictionary which contains the roll number & the name of the student.

Source code:

```
course={'Lloris':1,'Trippier':2,'Davies':3,'Ramos':4,'Varane':5,'Davinson':6,'Cristiano':7,'Kroos':8,'Kane':9,'Modric':10,'Bale':11,'Marcelo':12,'Navas':13,'Casemiro':14,'Carvajal':15,'Toby':16,'Vazquez':17,'Mariano':18,'Dembele':19,'Asensio':20}

print(course)
```

Output:



7.2 After 10 days, 5 more students apply for the same course, update the dictionary by adding them.

Source code:

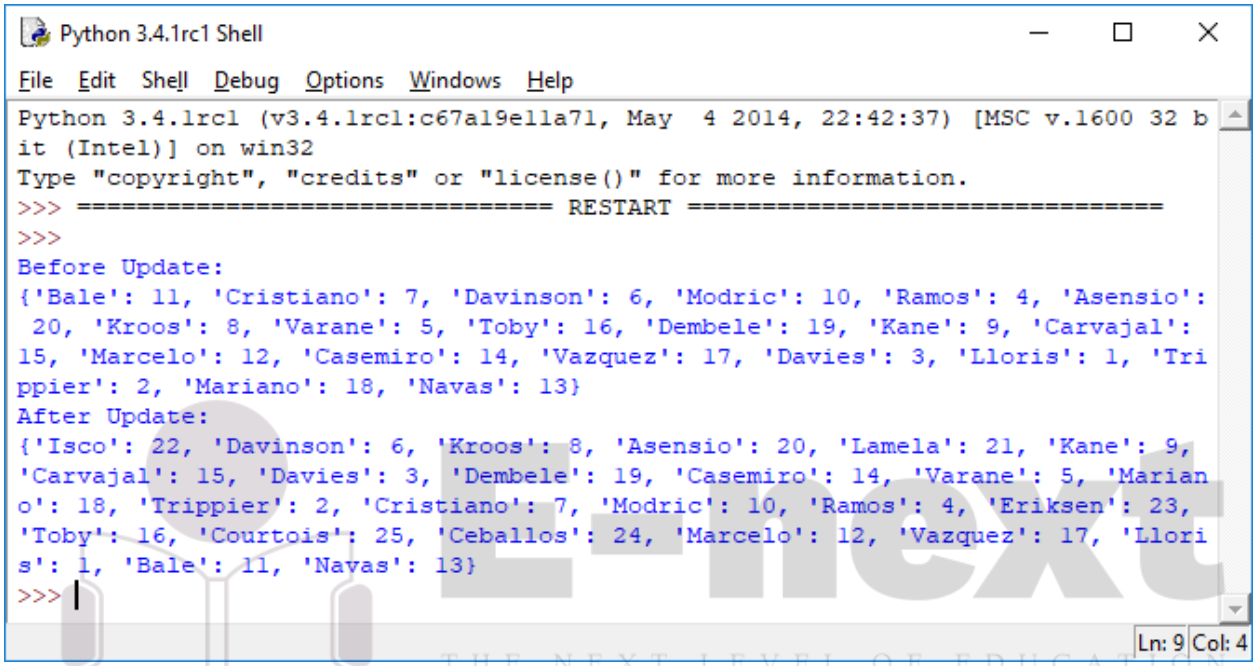
```
#Before Update

print('Before Update:')

course={'Lloris':1,'Trippier':2,'Davies':3,'Ramos':4,'Varane':5,'Davinson':6,'Cristiano':7,'Kroos':8,'Kane':9,'Modric':10,'Bale':11,'Marcelo':12,'Navas':13,'Casemiro':14,'Carvajal':15,'Toby':16,'Vazquez':17,'Mariano':18,'Dembele':19,'Asensio':20}

print(course)


#After Update
```

print('After Update:')

course={'Lloris':1,'Trippier':2,'Davies':3,'Ramos':4,'Varane':5,'Davinson':6,'Cristiano':7,'Kroos':8,'Kane':9,'Modric':10,'Bale':11,'Marcelo':12,'Navas':13,'Casemiro':14,'Carvajal':15,'Toby':16,'Vazquez':17,'Mariano':18,'Dembele':19,'Asensio':20,'Lamela':21,'Isco':22,'Eriksen':23,'Ceballos':24,'Courtois':25 }

print(course)

Output:



7.3 The same roll number of the student will be carried for the next class. At the end of the year, 3 students fail. Hence, remove them from the list.

Source code:

course={'Lloris':1,'Trippier':2,'Davies':3,'Ramos':4,'Varane':5,'Davinson':6,'Cristiano':7,'Kroos':8,'Kane':9,'Modric':10,'Bale':11,'Marcelo':12,'Navas':13,'Casemiro':14,'Carvajal':15,'Toby':16,'Vazquez':17,'Mariano':18,'Dembele':19,'Asensio':20,'Lamela':21,'Isco':22,'Eriksen':23,'Ceballos':24,'Courtois':25 }

#Before Removing

print("Before Removing")

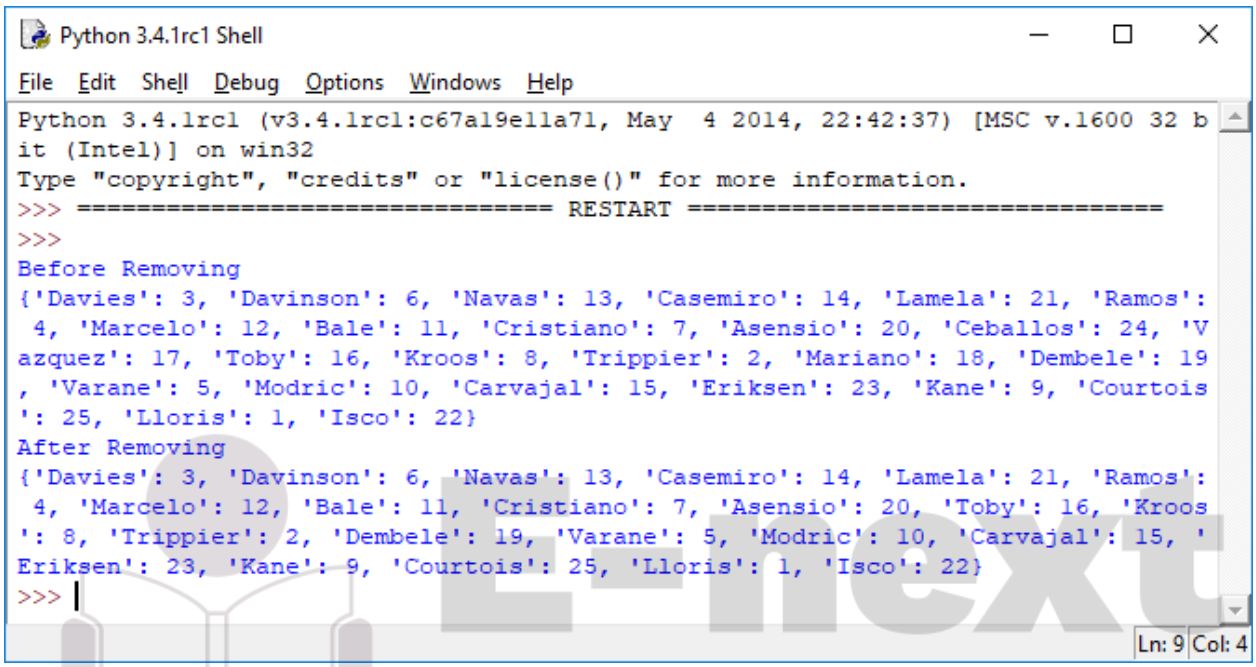
print(course)

del course['Ceballos']

del course['Vazquez']

```
del course['Mariano']

#After removing

print("After Removing")

print(course)
```

Output:

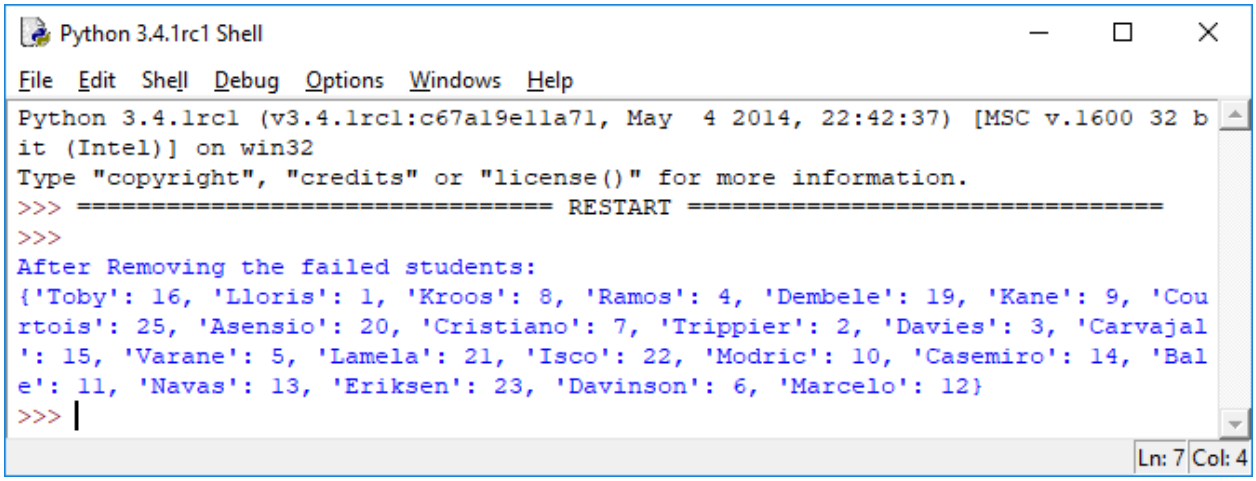


7.4 Hence, list the final dictionary which contains the roll number & the names of the student.

Source code:

```
course={'Lloris':1,'Trippier':2,'Davies':3,'Ramos':4,'Varane':5,'Davinson':6,'Cristiano':7,'Kroos':8,'Kane':9,'Modric':10,'Bale':11,'Marcelo':12,'Navas':13,'Casemiro':14,'Carvajal':15,'Toby':16,'Vazquez':17,'Mariano':18,'Dembele':19,'Asensio':20,'Lamela':21,'Isco':22,'Eriksen':23,'Ceballos':24,'Courtois':25 }

del course['Ceballos']

del course['Vazquez']

del course['Mariano']

#After removing

print("After Removing the failed students:")

print(course)
```

Output:

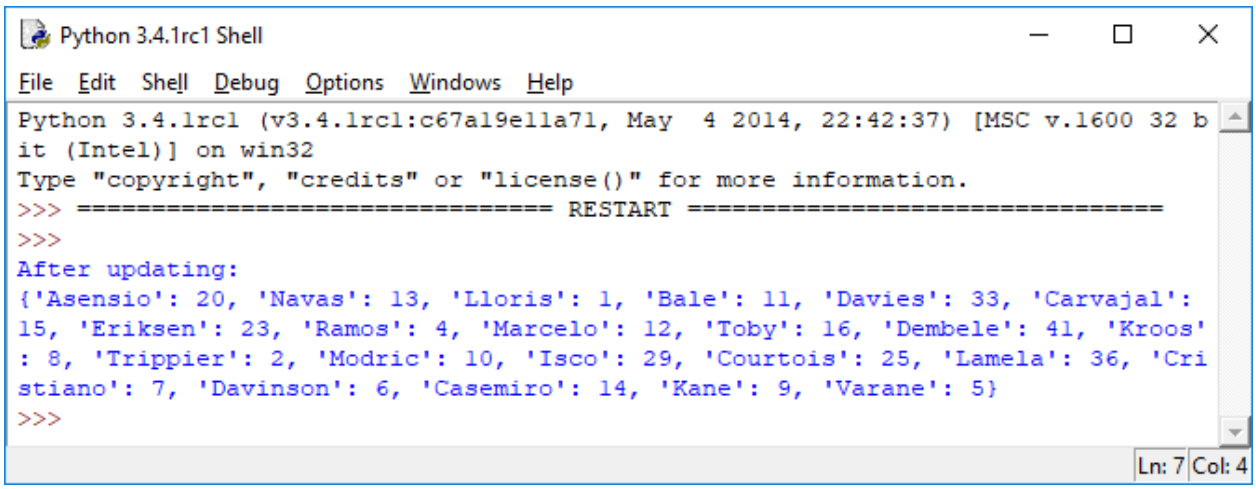


7.5 In the 2nd year, few students had changed their subjects, hence, their roll number also Changes. Update the dictionary with new roll numbers.

Source code:

```
course={'Isco': 22, 'Marcelo': 12, 'Lamela': 21, 'Modric': 10, 'Courtois': 25, 'Lloris': 1, 'Kroos': 8, 'Trippier': 2, 'Navas': 13, 'Davinson': 6, 'Ramos': 4, 'Asensio': 20, 'Bale': 11, 'Varane': 5, 'Kane': 9, 'Eriksen': 23, 'Dembele': 19, 'Toby': 16, 'Davies': 3, 'Casemiro': 14, 'Cristiano': 7, 'Carvajal': 15}

course['Isco']=29

course['Davies']=33

course['Lamela']=36

course['Dembele']=41

print("After updating:")

print(course)
```

Output:

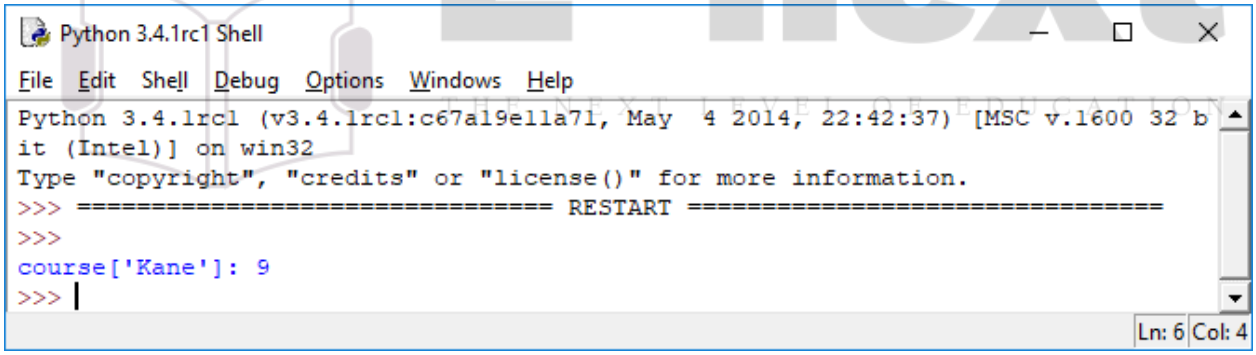


7.6 Perform a search operation through roll number & find the name of the student.

Source code:

```
course={'Isco': 22, 'Marcelo': 12, 'Lamela': 36, 'Modric': 10, 'Courtois': 25, 'Lloris': 1, 'Kroos': 8, 'Trippier': 2, 'Navas': 13, 'Davinson': 6, 'Ramos': 4, 'Asensio': 20, 'Bale': 11, 'Varane': 5, 'Kane': 9, 'Eriksen': 23, 'Dembele': 41, 'Toby': 16, 'Davies': 33, 'Casemiro': 14, 'Cristiano': 7, 'Carvajal': 15}

print("course['Kane']:",course['Kane'])
```

Output:



Practical 8

Aim: Programs using list comprehensions and anonymous functions.

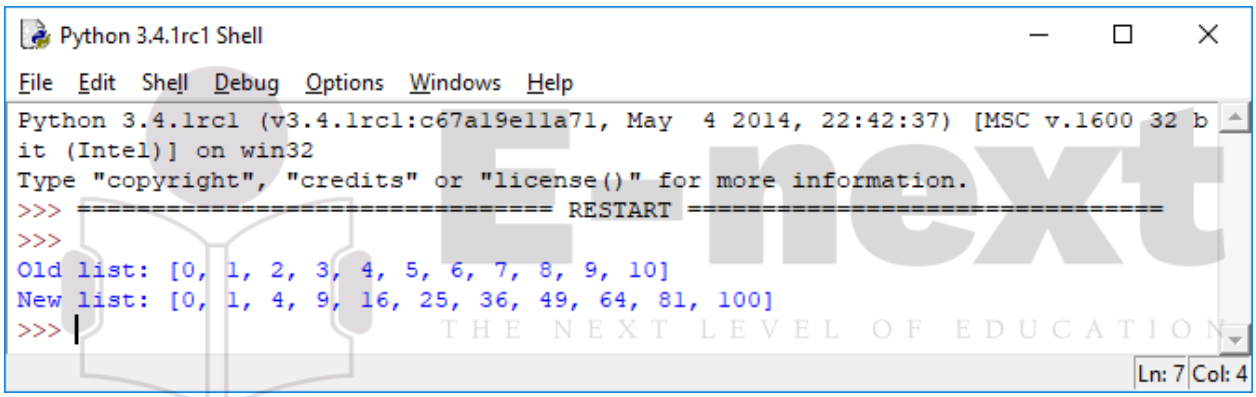
List Comprehension

8.1 write a python program to generate a new list containing the square of all the elements in the old list (use list comprehension).

Source code:

```
m=[0,1,2,3,4,5,6,7,8,9,10]

print("Old list:",m)

n=[(i**2) for i in m]

print("New list:",n)
```

Output:

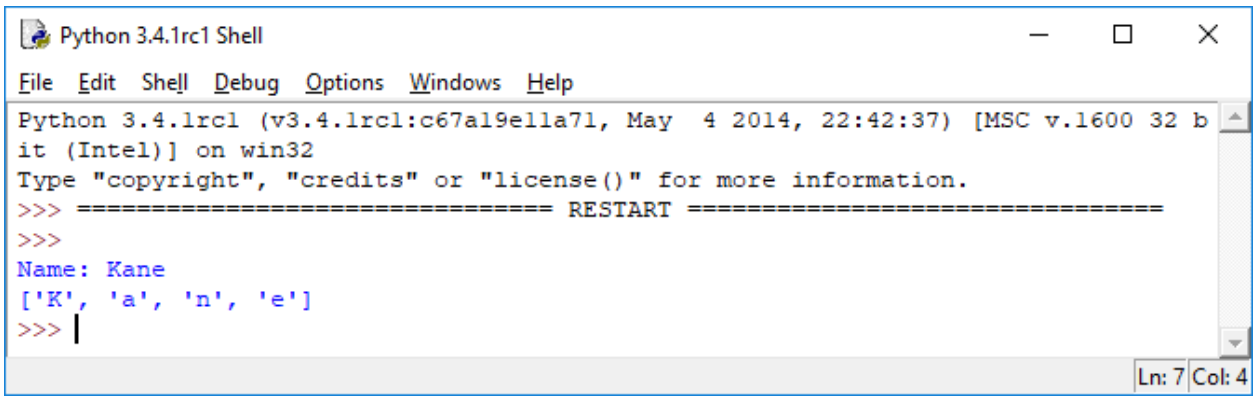


8.2 write a python program to generate a new list containing the character of the name stored in a use defined variable (use list comprehension).

Source code:

```
name="Kane"

print("Name:",name)

m=[i for i in(name)]

print(m)
```

Output:

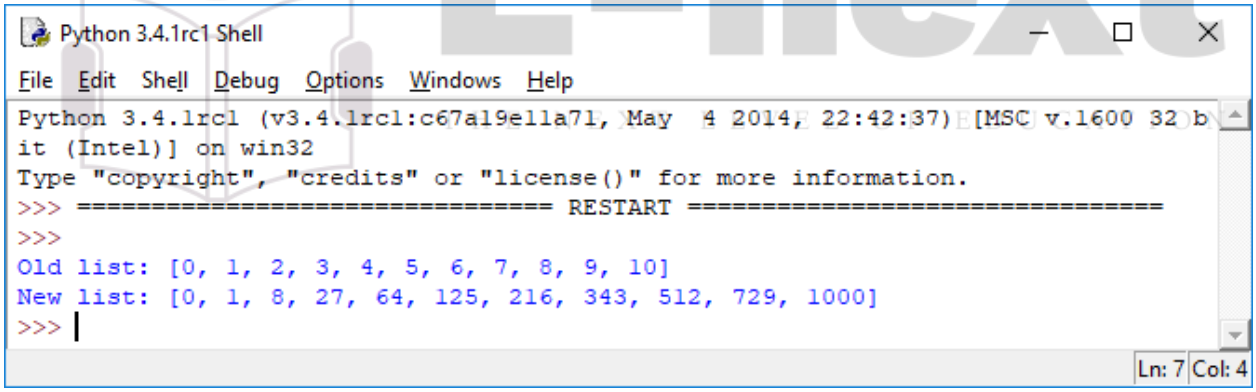


8.3 write a python program to generate a new list containing the cube of the numbers stored in an old list (use list comprehension).

Source code:

```
m=[0,1,2,3,4,5,6,7,8,9,10]

print("Old list:",m)

n=[(i**3) for i in m]

print("New list:",n)
```

Output:

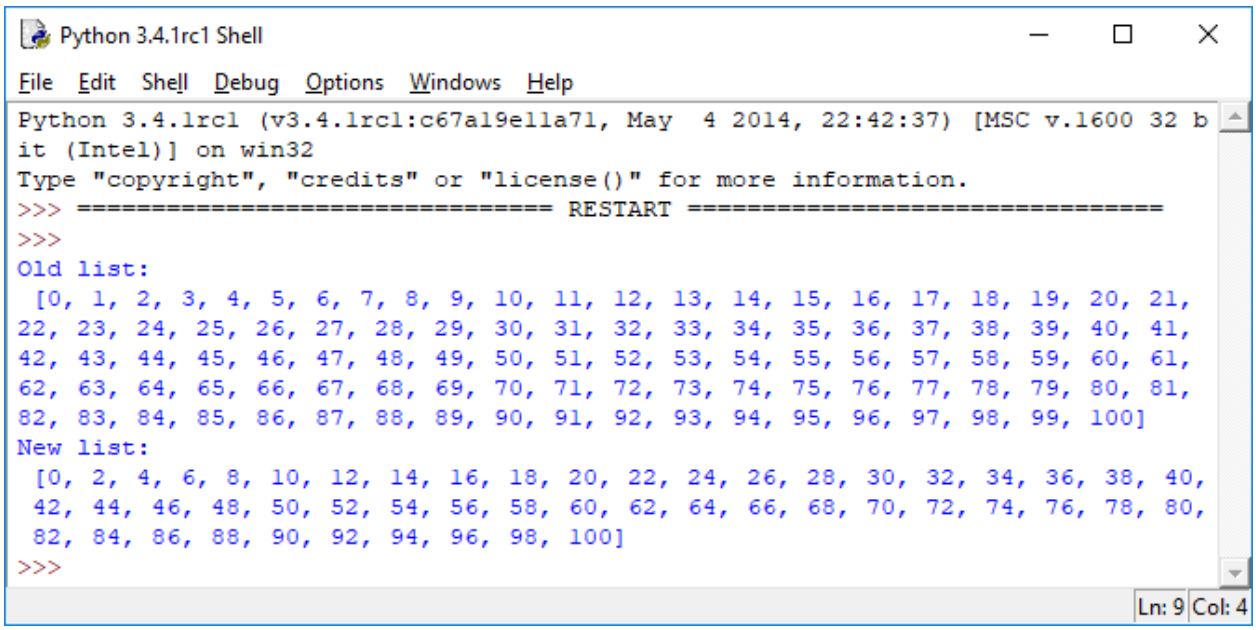


8.4 write a python program to generate a new list containing the even numbers between 1-100. (use list comprehension).

Source code:

```
m=[i for i in range(0,101)]

print("Old list: \n",m)

n=[i for i in range(0,101,2)]

print("New list: \n",n)
```

Output:



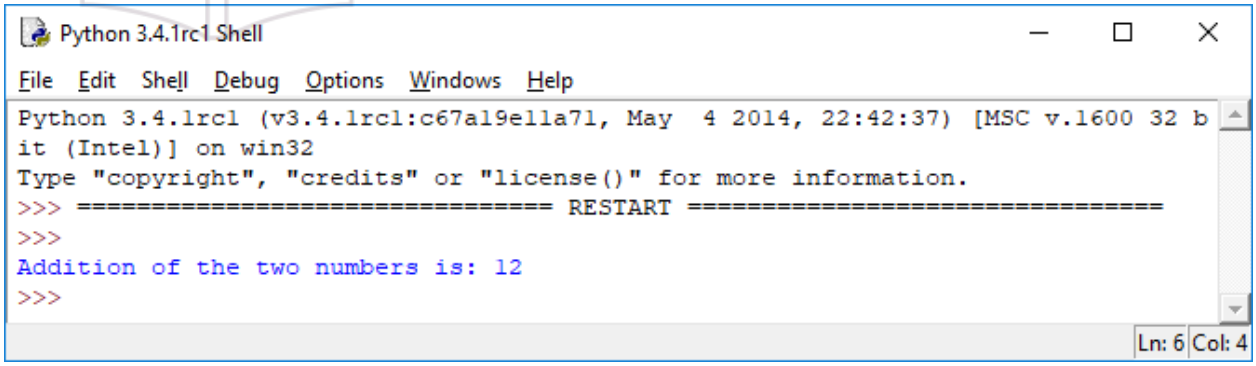
Anonymous function

8.5 write a python program to create an anonymous function to find addition of two user define numbers.

Source code:

```
add=lambda a,b:(a+b)

print("Addition of the two numbers is:",add(5,7))
```

Output:



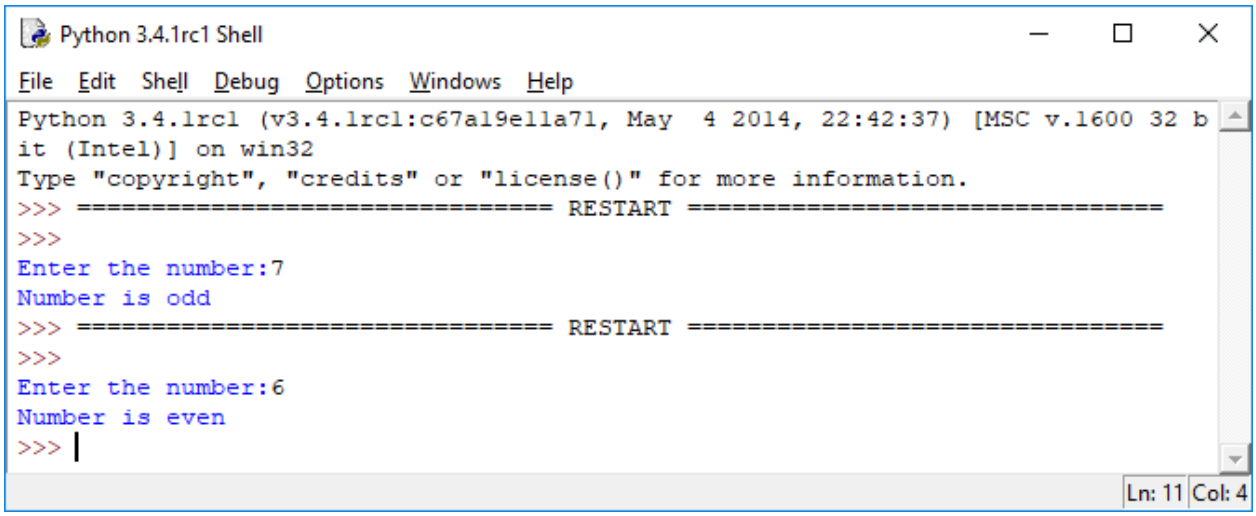
8.6 write a python program to create an anonymous function to check whether a number entered by the user is even or odd.

Source code:

```
m=lambda a: (n)

n=int(input("Enter the number:"))

if n%2==0:
```

```
    print("Number is even")
else:
    print("Number is odd")
```

Output:

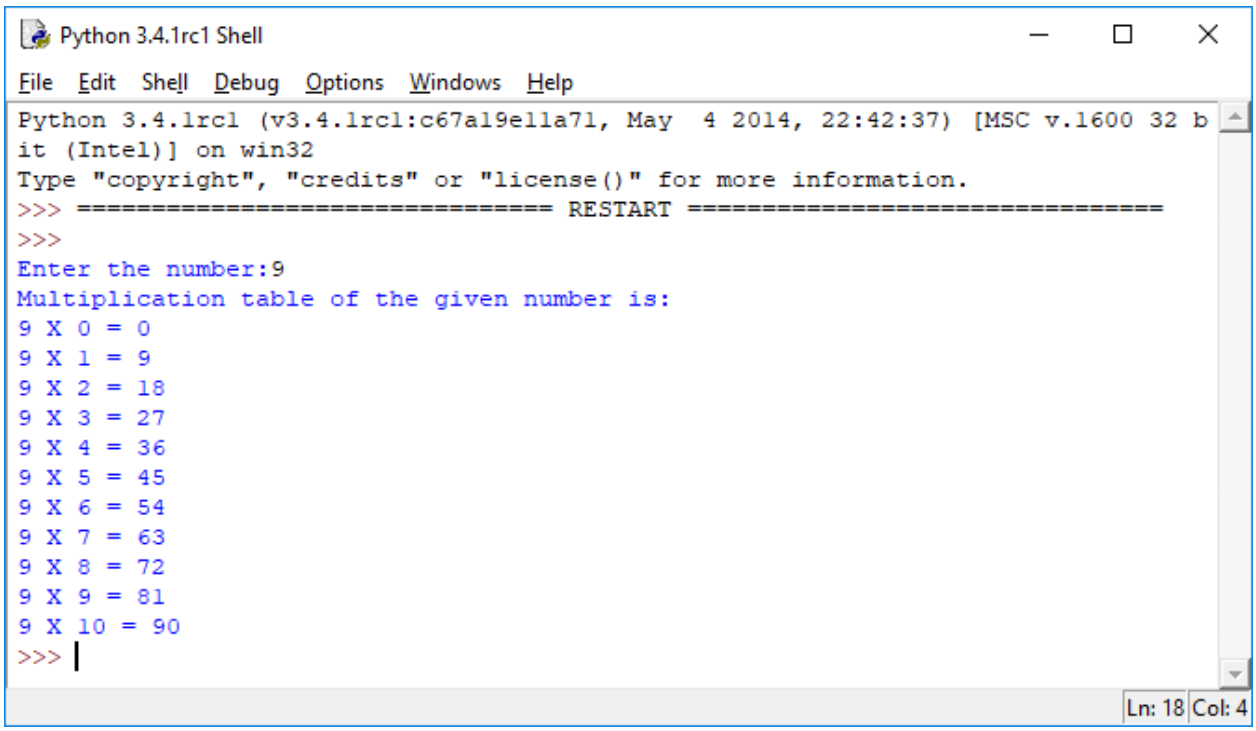


8.7 write a python program to create an anonymous function and print multiplication table of user defined number.

Source code:

```
m=lambda a: (n)
n=int(input("Enter the number:"))
print("Multiplication table of the given number is:")
for i in range(0,11):
    mul=i*n
    print(n,"X",i,"=",mul)
```

Output:



8.8 write a python program to create an anonymous function and print all the numbers starting from 0 and going upto the user defiend number(hint use range()).

Source code:

```
m=lambda a: (n)

n=int(input("Enter the number:"))

print("Numbers upto the number given by the user:")

for i in range(0,n+1):

    print(i)
```

Output: