Computer Science XII
Practical File 2022-23

Made by-

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XII – F

Roll no. 39

BASICS OF PYTHON

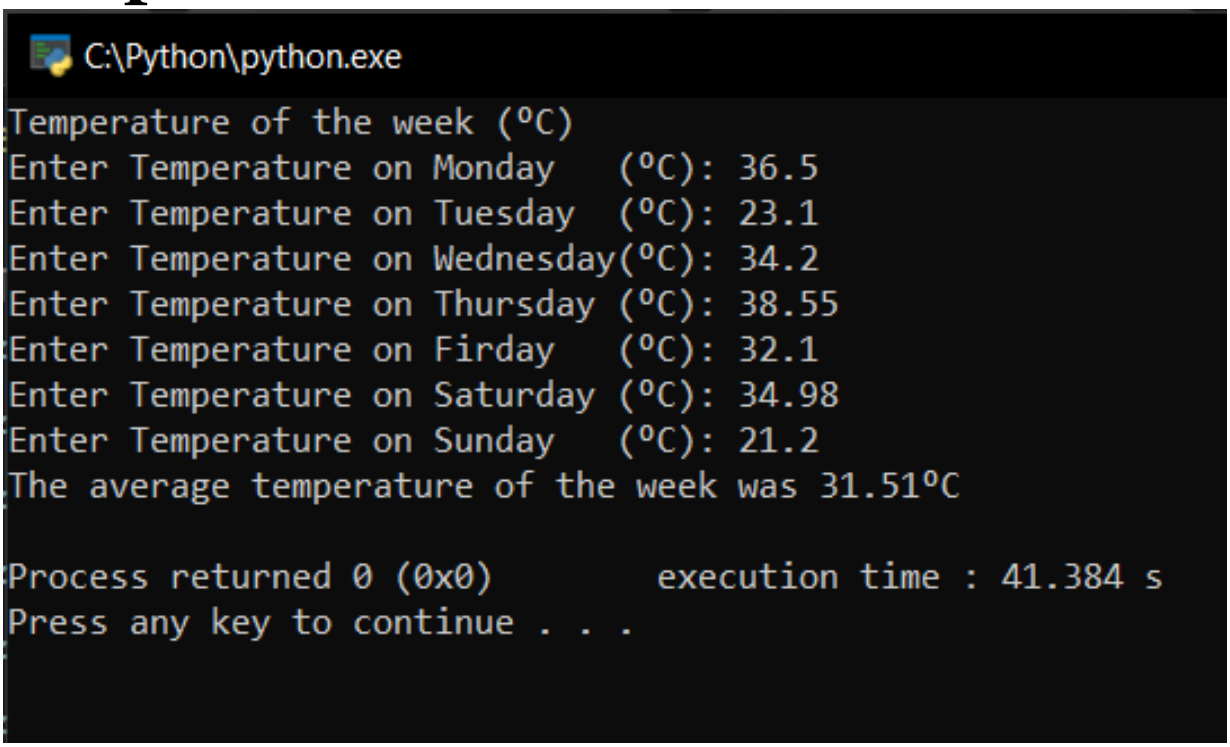
Program 1

Write a Python program to obtain temperatures of 7 days of a week and then display the average temperature of the week.

Source Code-

```
print("Temperature of the week (⁰C)")    #Title

#Obtain Temperature input from user
tempMon=float(input("Enter Temperature on Monday   (⁰C): "))
tempTue=float(input("Enter Temperature on Tuesday  (⁰C): "))
tempWed=float(input("Enter Temperature on Wednesday(⁰C): "))
tempThu=float(input("Enter Temperature on Thursday (⁰C): "))
tempFri=float(input("Enter Temperature on Friday   (⁰C): "))
tempSat=float(input("Enter Temperature on Saturday (⁰C): "))
tempSun=float(input("Enter Temperature on Sunday   (⁰C): "))

tempAvg=(tempMon + tempTue + tempWed + tempThu + tempFri + tempSat +
tempSun)/7 #Average Temperature
tempAvg = (tempAvg//0.01)/100    #removes everything after 2 decimals

print("The average temperature of the week was ",tempAvg,"⁰C",sep="")    #Output
```

Output-



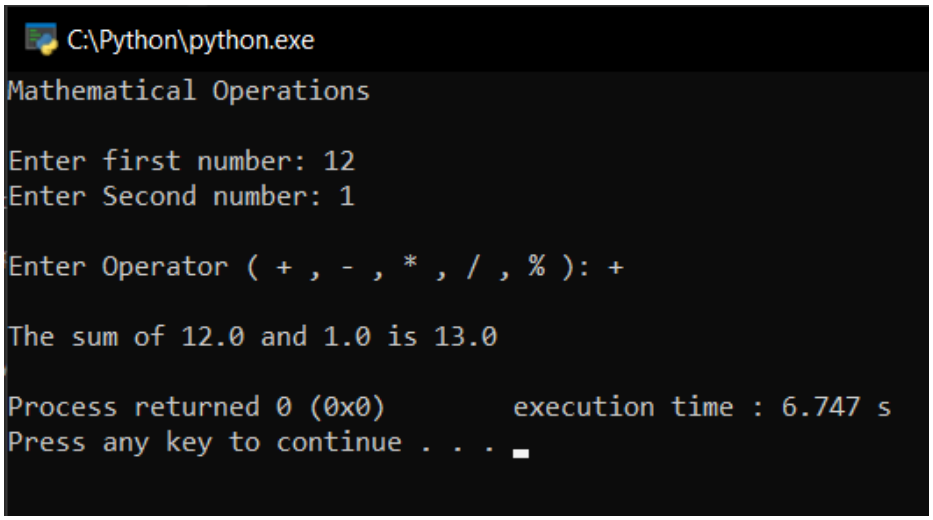
Program 2

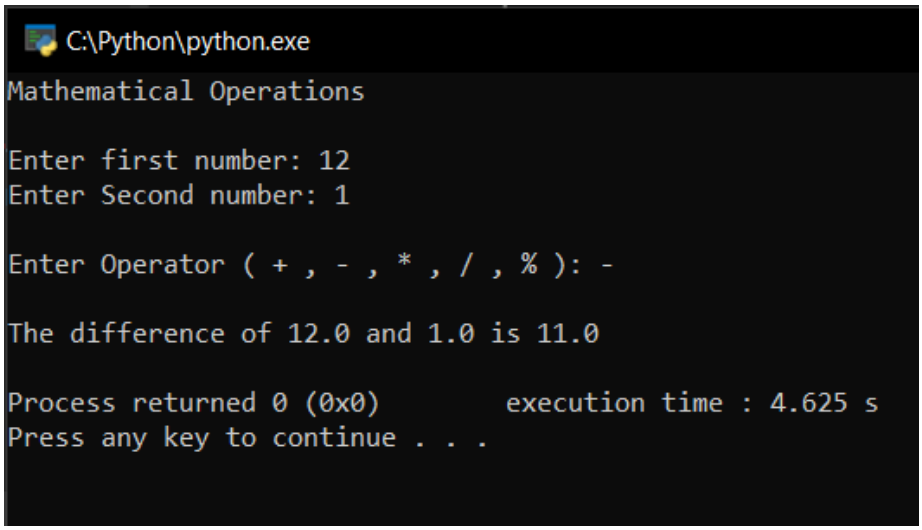
Write a Python program to accept two numbers and one operator (+,-,*, /, %) from the user and display the calculated result, according to the operator input from the user.

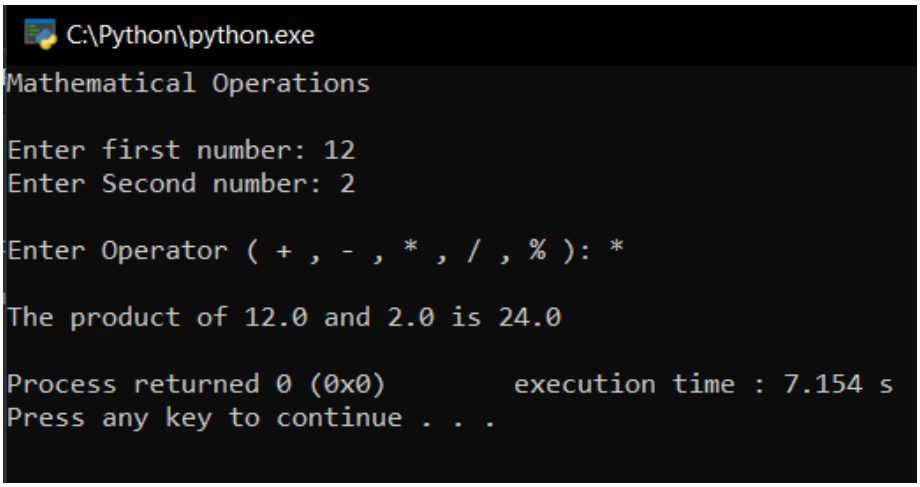
Source Code-

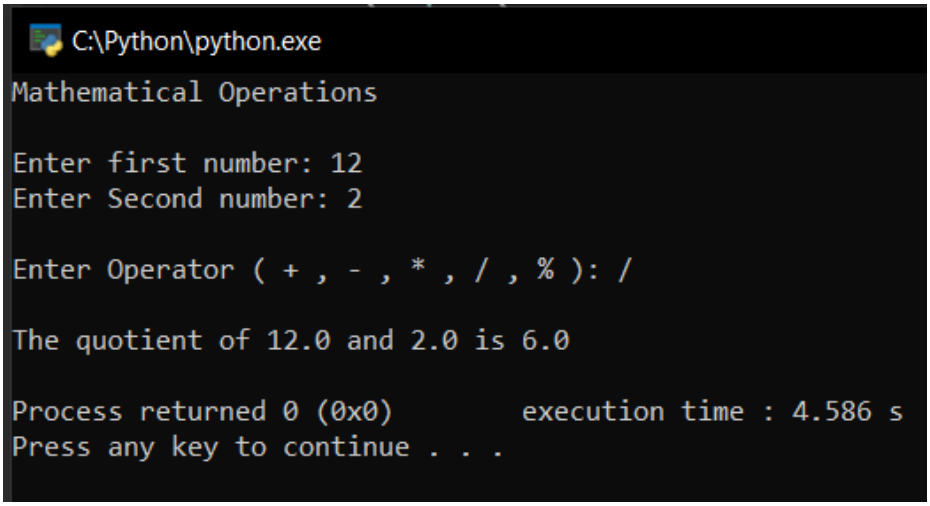
```
print("Mathematical Operations")    #Title
#Number Input
n1=float(input("\nEnter first number: "))
n2=float(input("Enter Second number: "))
#operator Input
operator= input("\nEnter Operator ( + , - , * , / , % ): ")
print('') #newline
#Operation based on operator
if(operator=="+"):
    print("The sum of",n1,"and",n2,"is",(n1+n2))
elif(operator=="-"):
    print("The difference of",n1,"and",n2,"is",(n1-n2))
elif(operator=="*"):
    print("The product of",n1,"and",n2,"is",(n1*n2))
elif(operator=="/"):
    print("The quotient of",n1,"and",n2,"is",(n1/n2))
elif(operator=="%"):
    print("The modulo of",n1,"and",n2,"is",(n1%n2))
else: #when input is not a valid operator
    print("Invalid operator!")
```

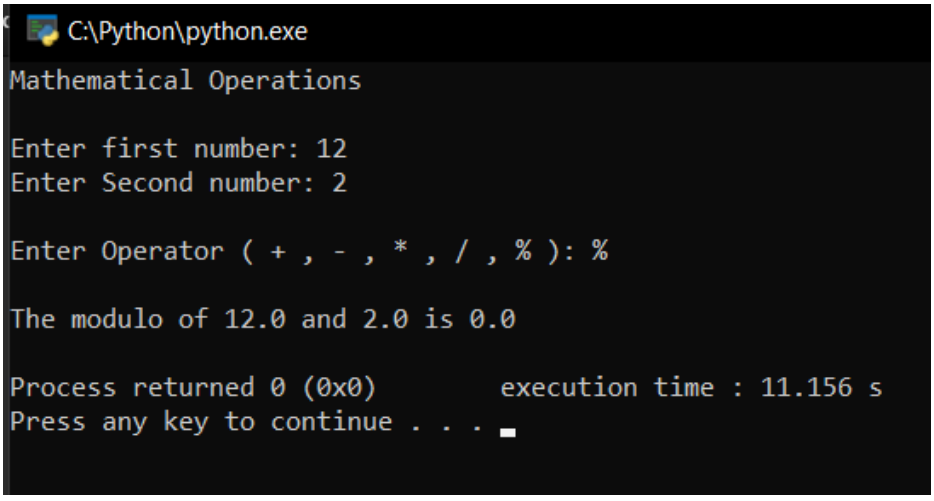
Output-




C:\Python\python.exe
Mathematical Operations
Enter first number: 12
Enter Second number: 1
Enter Operator (+ , - , * , / , %): -
The difference of 12.0 and 1.0 is 11.0
Process returned 0 (0x0) execution time : 4.625 s
Press any key to continue . . .


C:\Python\python.exe
Mathematical Operations
Enter first number: 12
Enter Second number: 2
Enter Operator (+ , - , * , / , %): *
The product of 12.0 and 2.0 is 24.0
Process returned 0 (0x0) execution time : 7.154 s
Press any key to continue . . .


C:\Python\python.exe
Mathematical Operations
Enter first number: 12
Enter Second number: 2
Enter Operator (+ , - , * , / , %): /
The quotient of 12.0 and 2.0 is 6.0
Process returned 0 (0x0) execution time : 4.586 s
Press any key to continue . . .


C:\Python\python.exe
Mathematical Operations
Enter first number: 12
Enter Second number: 2
Enter Operator (+ , - , * , / , %): %
The modulo of 12.0 and 2.0 is 0.0
Process returned 0 (0x0) execution time : 11.156 s
Press any key to continue . . .

Program 3

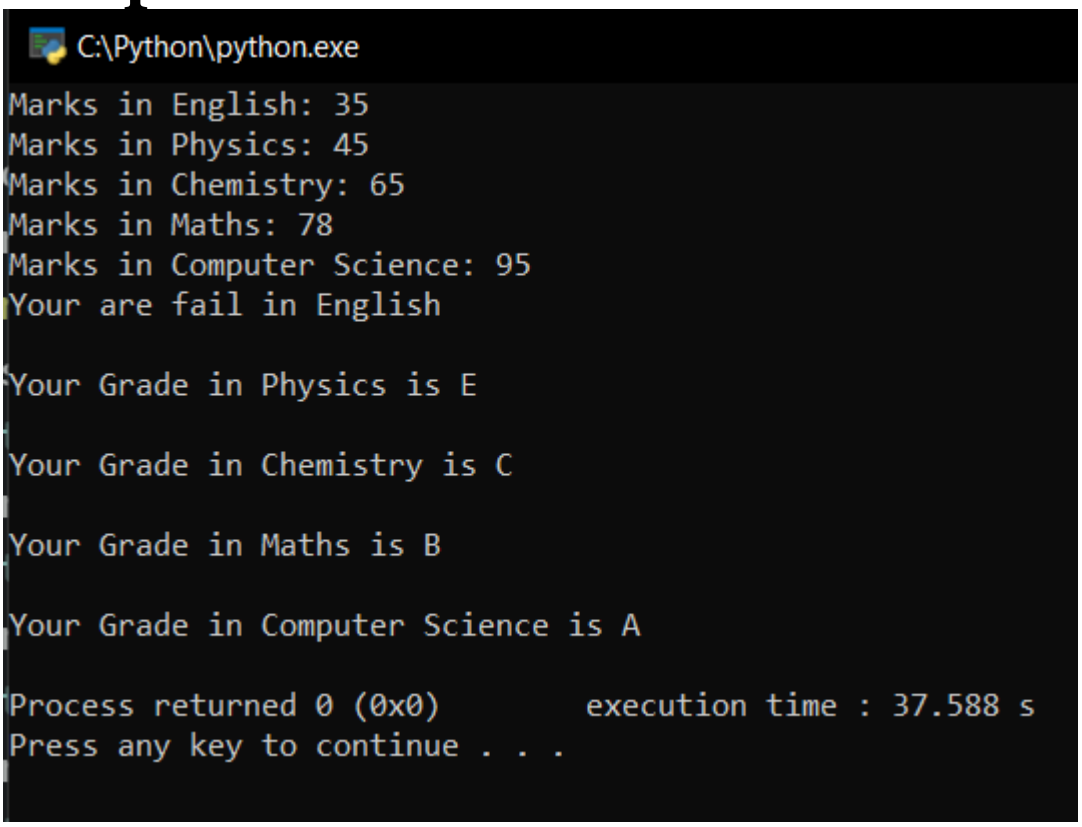
Write a Python program that inputs a student's marks in five subjects (out of 100), then prints the
percentage of marks, and calculates grades as per the following rules:

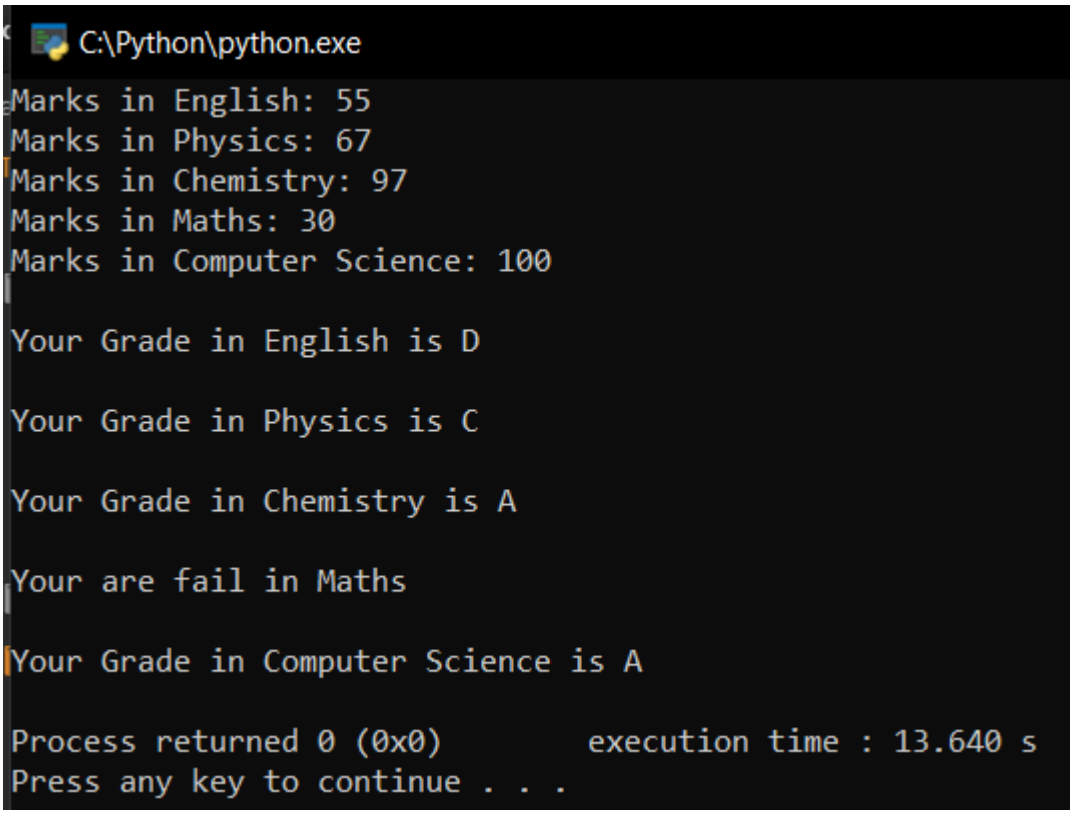
Marks	Marks
85% and above	A
75% -84%	B
65% - 74%	C
50% - 64%	D
40% - 49%	E
39% and below	Fail

Source Code-

```
subjects, iter , marks= ["English" , "Physics" , "Chemistry" , "Maths" , "Computer Science"] , 0 , [0,0,0,0,0]
for sub in subjects:
    marks[iter]=(int(input(("Marks in "+sub+": "))))
    iter+=1
iter=0
for sub in subjects:
    if(marks[iter]>39):
        print("\nYour Grade in",sub,"is ",end="")
        if (marks[iter]>=85):
            print("A")
        elif (marks[iter]>=75):
            print("B")
        elif (marks[iter]>=65):
            print("C")
        elif (marks[iter]>=50):
            print("D")
        elif (marks[iter]>=40):
            print("E")
    else:
        print("\nYour are fail in",sub)
    iter+=1
```

Output-


C:\Python\python.exe
Marks in English: 35
Marks in Physics: 45
Marks in Chemistry: 65
Marks in Maths: 78
Marks in Computer Science: 95
Your are fail in English
Your Grade in Physics is E
Your Grade in Chemistry is C
Your Grade in Maths is B
Your Grade in Computer Science is A
Process returned 0 (0x0) execution time : 37.588 s
Press any key to continue . . .


C:\Python\python.exe
Marks in English: 55
Marks in Physics: 67
Marks in Chemistry: 97
Marks in Maths: 30
Marks in Computer Science: 100
Your Grade in English is D
Your Grade in Physics is C
Your Grade in Chemistry is A
Your are fail in Maths
Your Grade in Computer Science is A
Process returned 0 (0x0) execution time : 13.640 s
Press any key to continue . . .

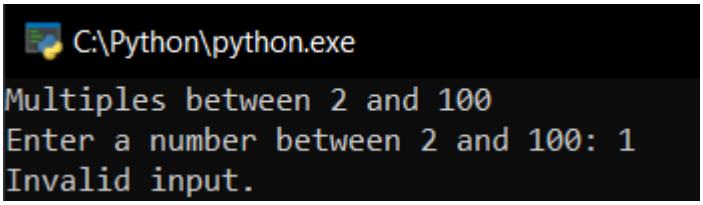
Program 4

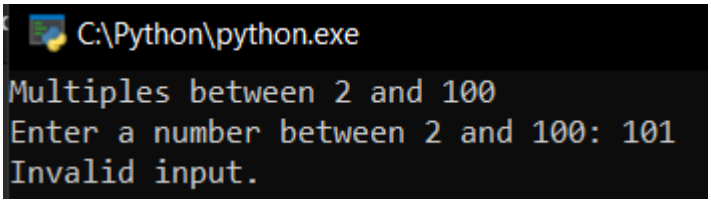
Write a Python program to display all multiples between 2 and 100 of a number input from user.

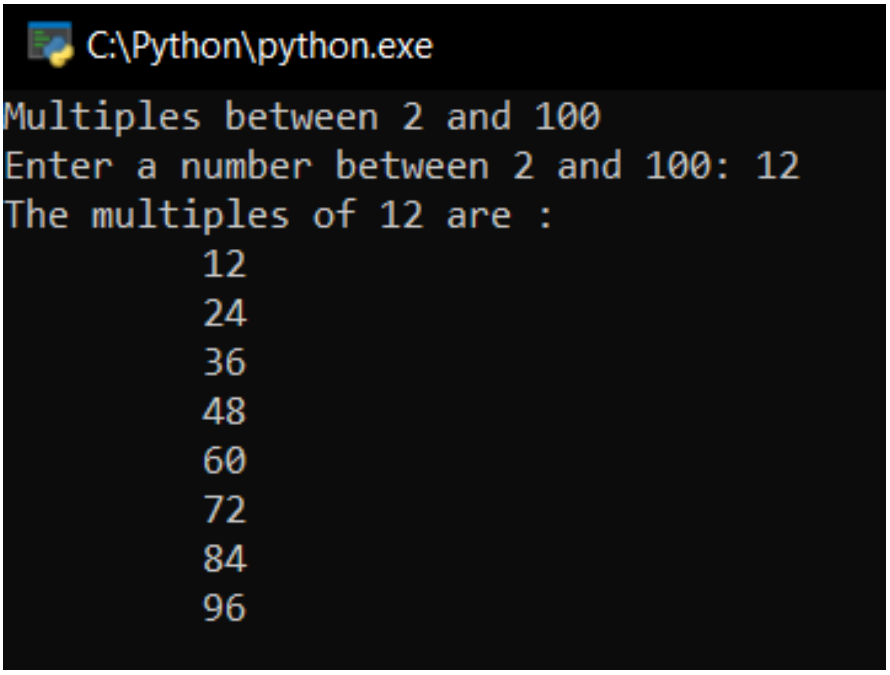
Source Code-

```
print("Multiples between 2 and 100")
num = int(input("Enter a number between 2 and 100: "))
if (num>2 and num<100):
   print("The multiples of",num,"are :")
   for j in range(3,100):
      if((j%num)==0):
         print('\t',j)
else:
   print("Invalid input.")
```

Output-







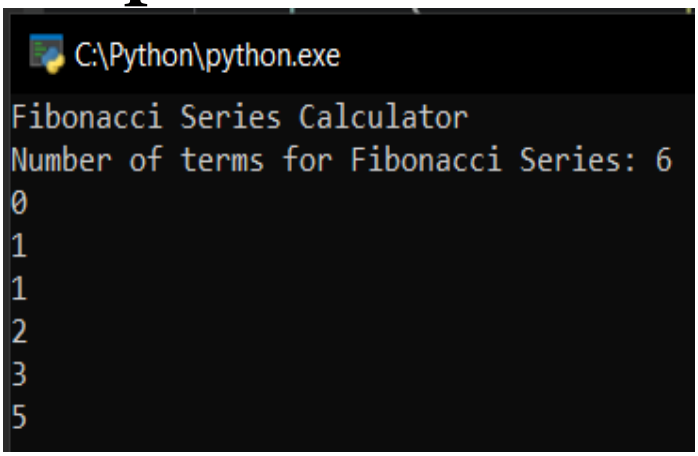
Program 5

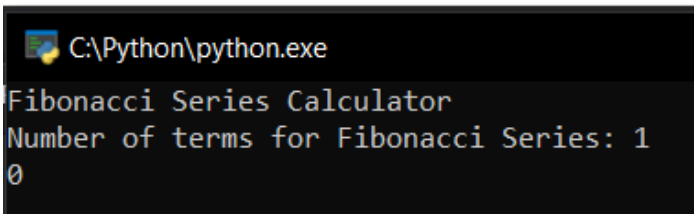
Write a Python program to take an integer input N from the user. Print N Fibonacci numbers. Recall that Fibonacci series progresses as 0 1 1 2 3 5 8 13.....

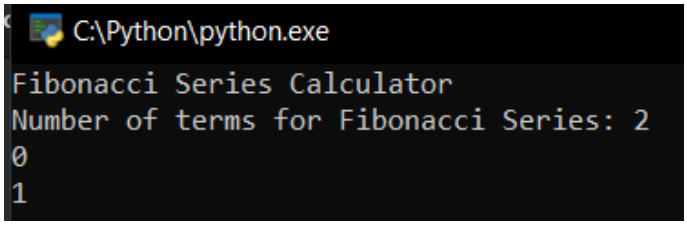
Source Code-

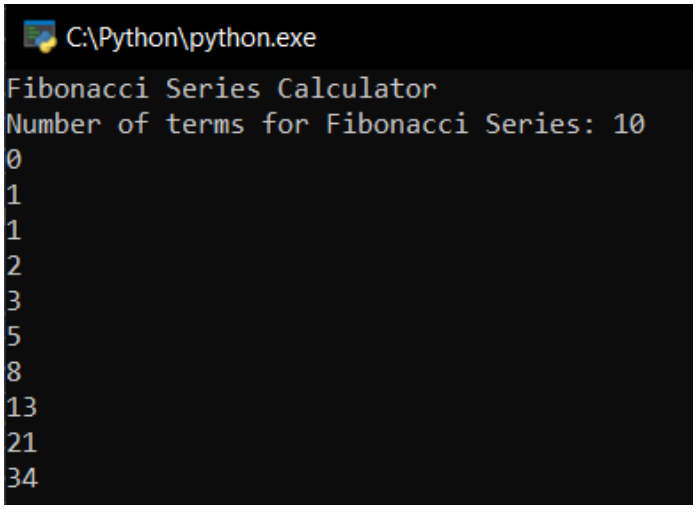
```
print("Fibonacci Series Calculator")
a1,a2,n,an=0,1,int(input("Number of terms for Fibonacci Series: ")),1
if (n<1):
   print("Invalid Input")
elif (n==1):
   print("0")
elif (n==2):
   print("0 \n1")
else:
   print("0 \n1")
   for j in range(3,n+1):
      an = a1 + a2
      a1 = a2
      a2 = an
      print(an)
```

Output-









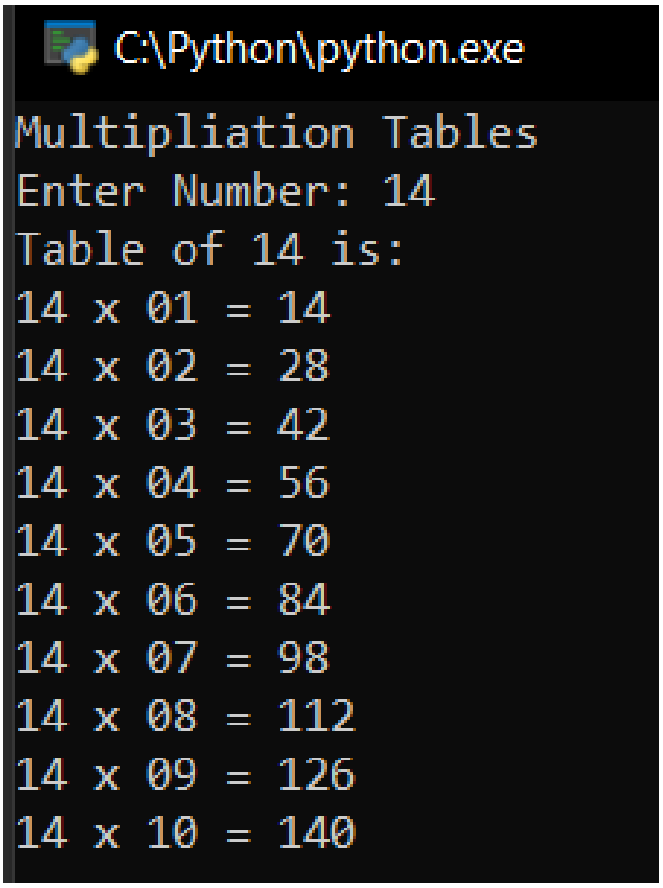
Program 6

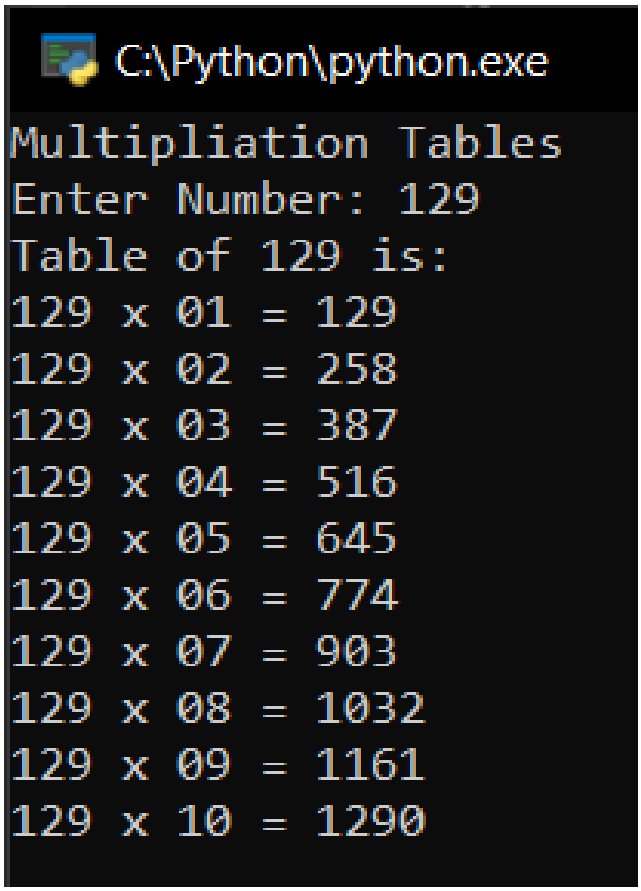
Write a Python program to take an integer input N from the user and print the factorial of N. Program should print an error for negative numbers.

Source Code-

```
print("Multipliation Tables")
n=int(input("Enter Number: "))
print("Table of",n,"is:")
for j in range(1,11):
    nj = n * j
    print(n,"x",str(j).zfill(2),"=",nj)
```

Output-





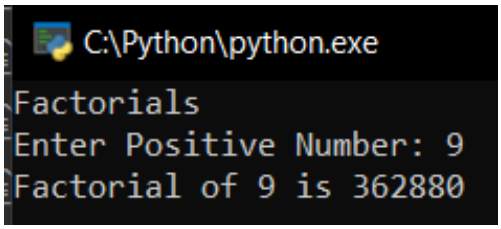
Program 7

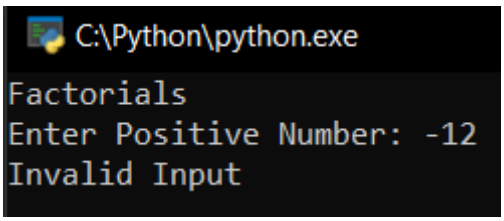
Write a Python program to take an integer input N from the user and print the factorial of N. Program should print an error for negative numbers.

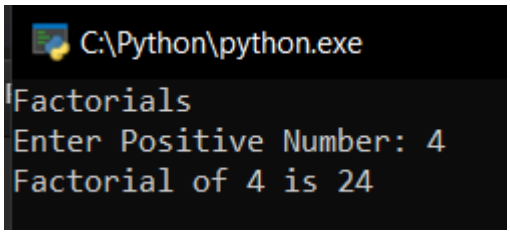
Source Code-

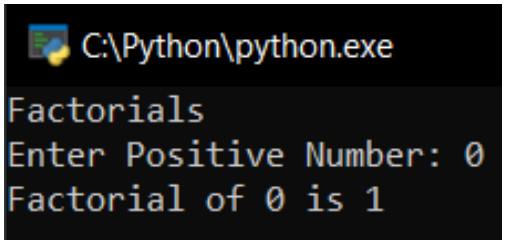
```
print("Factorials")
Fac , n = 1 , int(input("Enter Positive Number: "))
if(n<0):
   print("Invalid Input")
elif (n==0):
   print("Factorial of 0 is 1")
elif(n>0):
   for fact in range(1,n+1):
      Fac*=fact
   print("Factorial of",n,"is",Fac)
```

Output-









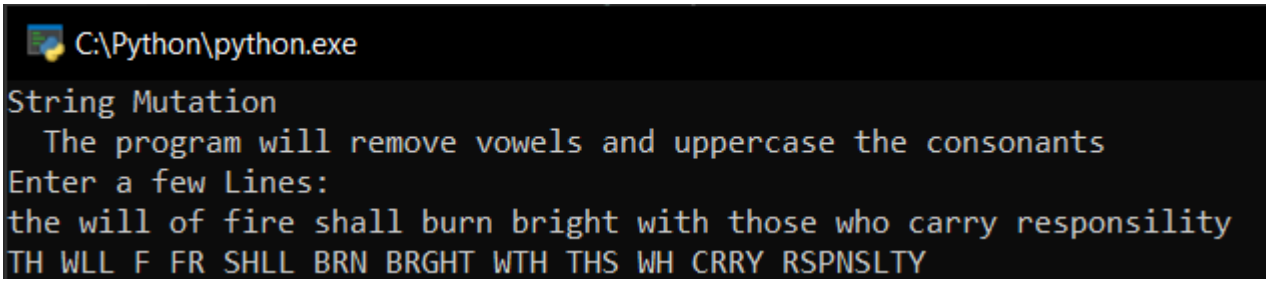
Program 8

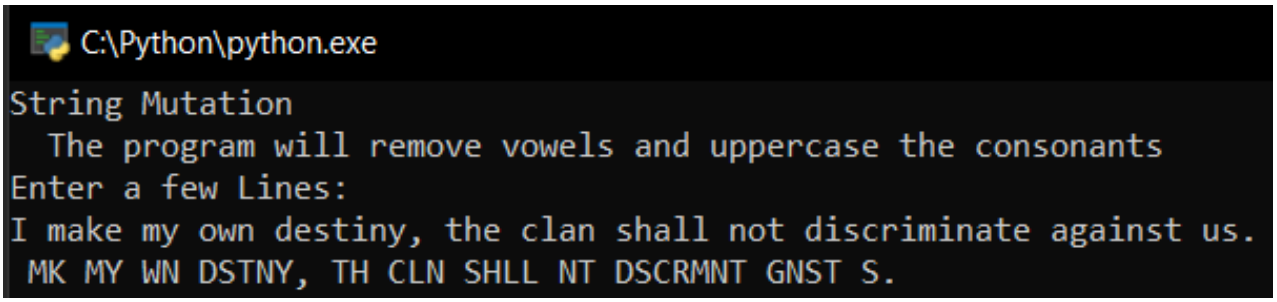
Write a Python program to input a string from the user and check for vowels and consonants. Remove all vowels, change the case of the consonants and generate the resultant string.

Source Code-

```
print("String Mutation \n  The program will remove vowels and uppercase the consonants")
Sen , ts=input("Enter a few Lines: \n") , []
for j in range(0,len(Sen)):
   ts.append(Sen[j])
for num in range(0,len(Sen)):
   a=ts[num]
   if a in "AEIOUaeiou" :
      ts[num] = ""
   else:
      ts[num] = ts[num].upper()
   print(ts[num], end="")
```

Output-





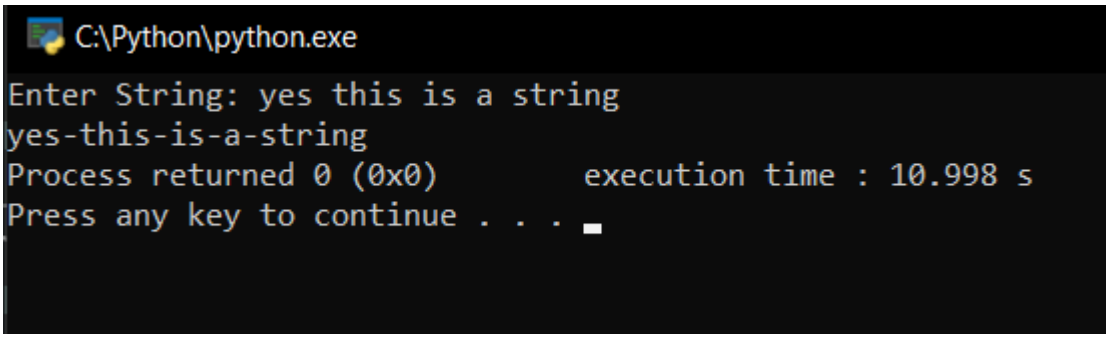
Program 9

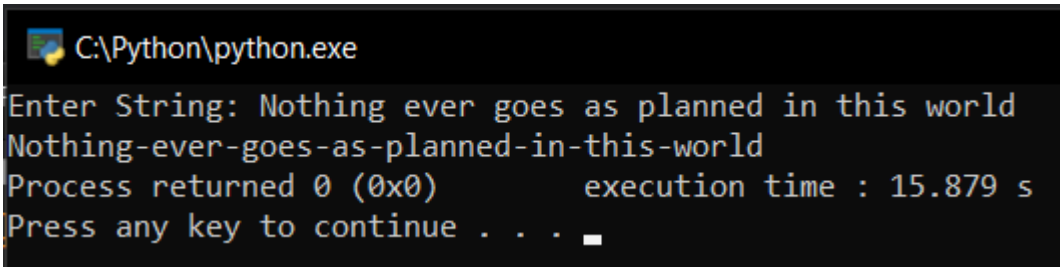
Write a Python program to input a string and replace all spaces with hyphen (without using inbuilt functions)

Source Code-

```
n = input("Enter String: ")
for j in range(len(n)):
    if n[j] == " ":
        print('-',end="")
    else:
        print(n[j],end="")
```

Output-





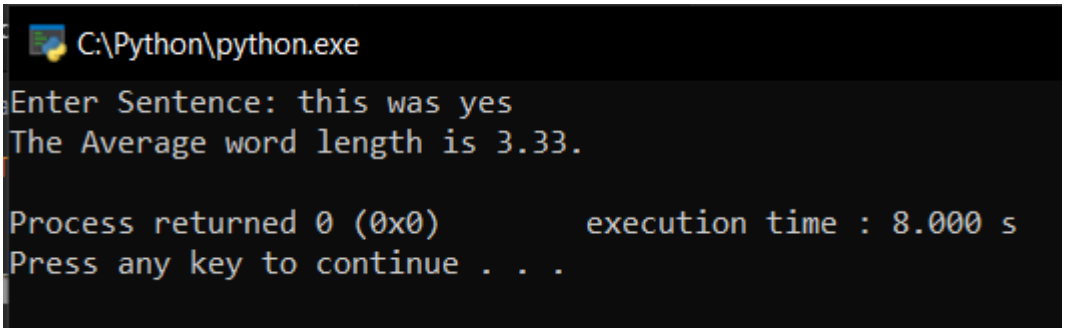
Program 10

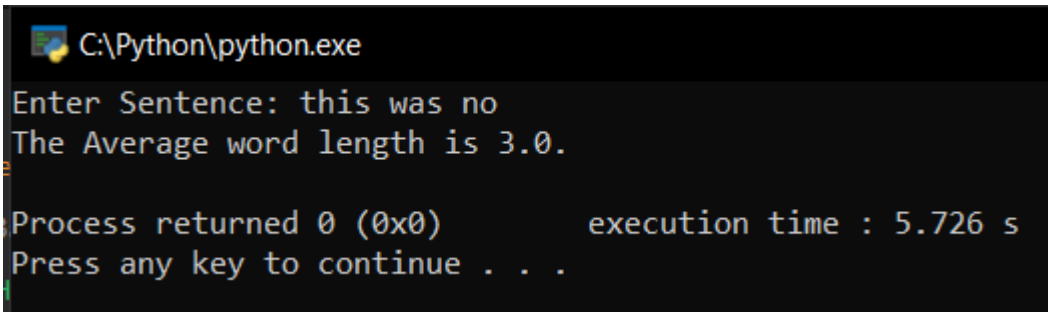
Write a Python Program to calculate the average length of a word in a string input by user.

Source Code-

```
n , charCount = input("Enter Sentence: ").split() , 0
for j in n:
        charCount+=len(j)
print("The Average word length is ",round((charCount/len(n)),2),'.',sep='')
```

Output-





Program 11

Write a program to delete elements using index value and storing the deleted value.

Source Code-

```
print(" Welcome to List Index Deletion and Storage")
LS = 0
while True:
    try: LS = eval(input("  Enter List: "))
    except: pass
    if type(LS)==type([]): break
    print('   Invalid, Try Again')
de = int(input("Enter Index to Delete: "))
a = LS.pop(de)
print("New List: ",LS)
print(a)
```

Output-

```
 Welcome to List Index Deletion and Storage
  Enter List: [1,2,3,4,5,7,8,121]
Enter Index to Delete: 3
New List:  [1, 2, 3, 5, 7, 8, 121]
4

Process returned 0 (0x0)        execution time : 10.388 s
Press any key to continue . . .
```

```
 Welcome to List Index Deletion and Storage
  Enter List: ['a','b','c','dancers']
Enter Index to Delete: 3
New List:  ['a', 'b', 'c']
dancers

Process returned 0 (0x0)        execution time : 18.481 s
Press any key to continue . . .
```

Program 12

Write a program with list functions and methods

Source Code-

```
print("List Functions and Methods")
lost = [1,2,3,4,6,7,121,-31.41,2,3,2,2]
print("The list is",lost,"\n")
print("""
You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()
""")
while True:
    option = int(input("Enter the Option: "))
    if option==1:
        print(lost.index(eval(input("index() \nEnter the item (use appropriate variable
        format): "))))
    elif option==2:
        print(lost.append(eval(input("append() \nEnter Item to Append (use
        appropriate variable format): "))))
    elif option==3:
        print(lost.extend(eval(input("extend() \nEnter List to Extend (use appropriate
        variable format): "))))
    elif option==4:
        print(lost.count(eval(input("count() \nEnter the Item (use appropriate variable
        format): "))))
    elif option==5:
        print(lost.reverse())
    elif option==6:
        if bool(input("sort() \nIf you want to reverse press 1: ")) == 0:
            lost.sort() ; print(lost)
        else:
            lost.sort(reverse=True) ; print(lost)
    elif option==7:
        lost.insert(eval(input("count() \nEnter index: ")),eval(input("Enter Item (in
format): ")))
```

```
    print(lost)
  elif option==8:
    a = lost.pop(int(input("Enter index to pop: ")))
    print(lost)
    print("Removed Item:",a)
  else: continue
  break
```

Output-

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 1
index()
Enter the item (use appropriate variable format): 121
6

Process returned 0 (0x0)        execution time : 7.009 s
Press any key to continue . . .
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 2
append()
Enter Item to Append (use appropriate variable format): 'actors'
[1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2, 'actors']

Process returned 0 (0x0)        execution time : 12.206 s
Press any key to continue . . .
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 3
extend()
Enter List to Extend (use appropriate variable format): [434,353]
[1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2, 434, 353]

Process returned 0 (0x0)        execution time : 13.572 s
Press any key to continue . . .
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 4
count()
Enter the Item (use appropriate variable format): 2
4
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 5
[2, 2, 3, 2, -31.41, 121, 7, 6, 4, 3, 2, 1]
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 6
sort()
If you want to reverse press 1: 1
[121, 7, 6, 4, 3, 3, 2, 2, 2, 2, 1, -31.41]
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 6
sort()
If you want to reverse press 1 else blank:
[-31.41, 1, 2, 2, 2, 2, 3, 3, 4, 6, 7, 121]
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 7
count()
Enter index: 4
Enter Item (in format): '4th item'
[1, 2, 3, 4, '4th item', 6, 7, 121, -31.41, 2, 3, 2, 2]
```

```
List Functions and Methods
The list is [1, 2, 3, 4, 6, 7, 121, -31.41, 2, 3, 2, 2]


You can select from functions to perform on the list:
1) index()
2) append()
3) extend()
4) count()
5) reverse()
6) sort()
7) insert()
8) pop()

Enter the Option: 8
Enter index to pop: 6
[1, 2, 3, 4, 6, 7, -31.41, 2, 3, 2, 2]
Removed Item: 121
```

FUNCTIONS

IN PYTHON

Program 13

Mean Average (Multiple Forms

Source Code-

```
def avg(n1,n2,n3,n4):
    av=(n1+n2+n3+n4)/4
    print(av)

a=int(input("Enter a number: "))
b=int(input("Enter a number: "))
c=int(input("Enter a number: "))
d=int(input("Enter a number: "))
avg(a,b,c,d)

def avg2(n1,n2,n3,n4):
    s=0
    l=4
    for k in n1,n2,n3,n4:
        if k=="":
            k=0
            l-=1
        s+=float(k)
    av=(s)/l
    print(av)

a=input("Enter a number: ")
b=input("Enter a number: ")
c=input("Enter a number: ")
d=input("Enter a number: ")
avg2(a,b,c,d)
```

Output-

```
Enter a number: 4
Enter a number: 6
Enter a number: 8
Enter a number: 9
6.75
Enter a number: 32
Enter a number: 4
Enter a number: 92
Enter a number:
42.666666666666664
```

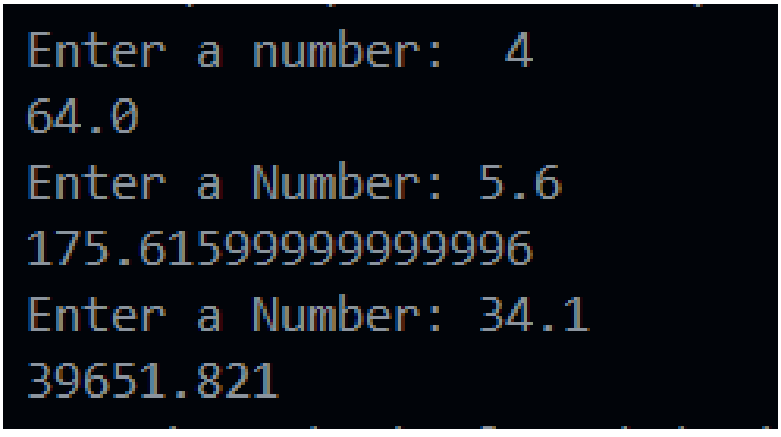
Program 14

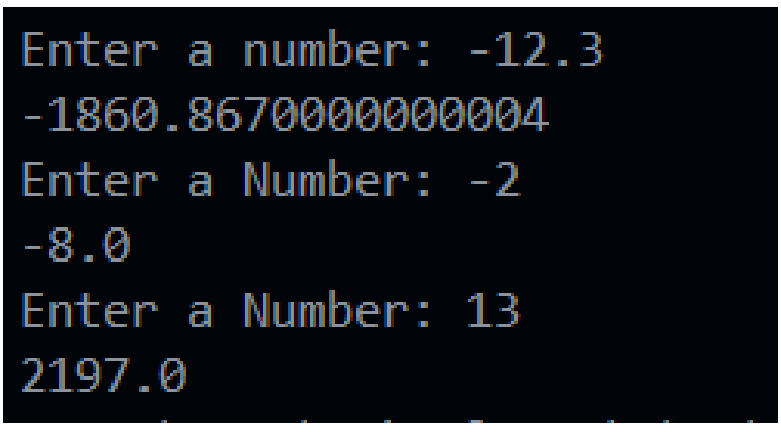
Cubing (Multiple Forms)

Source Code-

```
#23/3/22

#Method 1:
def cube(n):
    a=n*n*n
    return a
num=float(input("Enter a number: "))
print(cube(num))

#Method 2:
def cube2(n): return n**3
num2 = float(input("Enter a Number: "))
print(cube2(num2))

#Method 3:
cube3 = lambda n : n**3
num3 = float(input("Enter a Number: "))
print(cube3(num3))
```

Output-





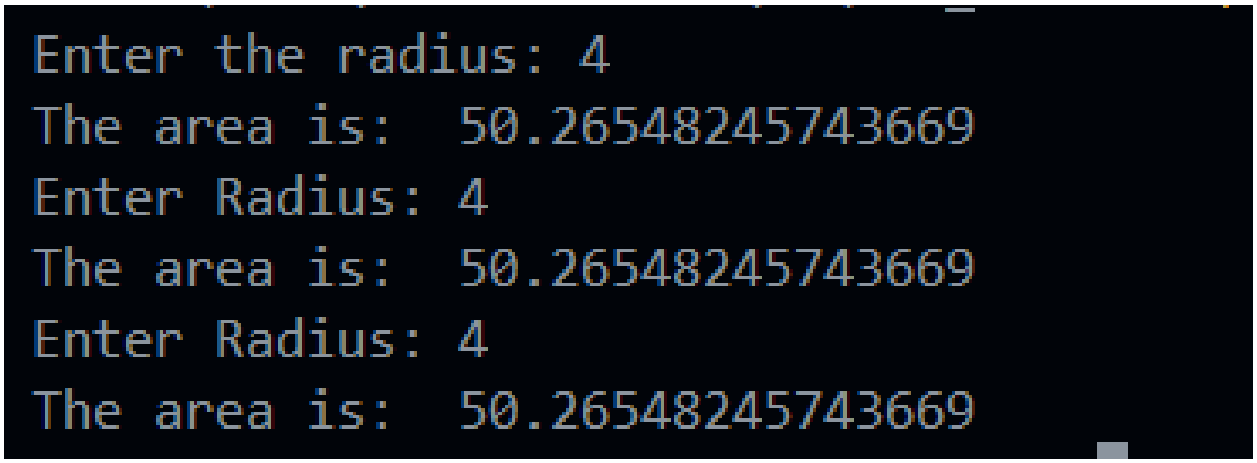
Program 15

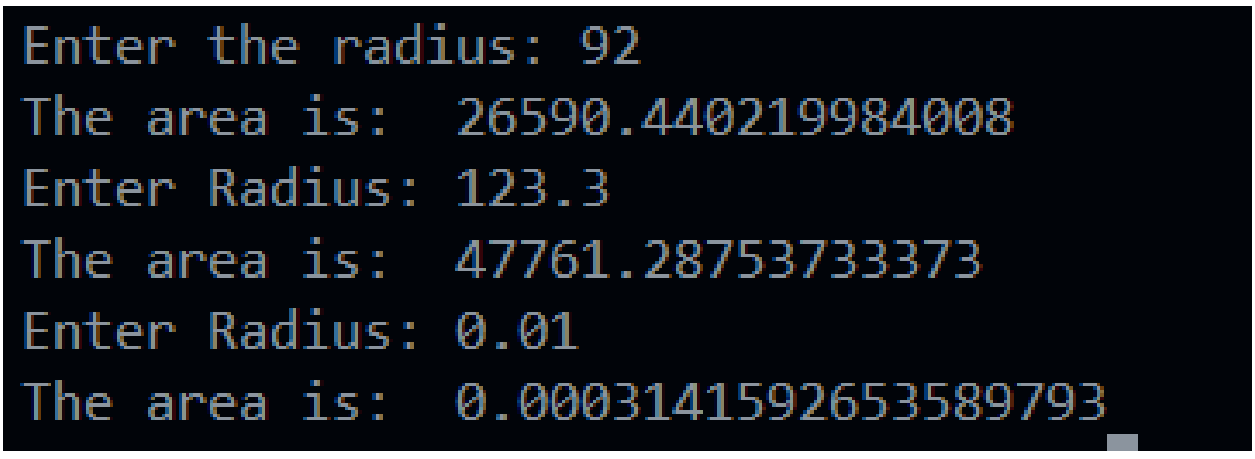
Area of Circle (Multiple Forms)

Source Code-

```
#25/3/22

from math import *

#Method 1:
def ar(rad):
    a=pi*rad*rad
    return a
r=float(input("Enter the radius: "))
print("The area is: ",ar(r))

#Method 2:
def ar2(rad):
    return pi*(rad**2)
print("The area is: ",ar2(float(input("Enter Radius: "))))

#Method 3:
ar3 = lambda rad : pi*(r**2)
print("The area is: ",ar3(float(input("Enter Radius: "))))
```

Output-





Program 16

Calculator

Source Code-

```
#28/3/22
from math import *

def conNum(x):
    if float(x) == round(float(x)):
        return round(float(x))
    elif float(x) != round(float(x)):
        return round(float(x),3)

def simpleCalc():
    print("Welcome to Simple Calculator, + adds , - subtracts , x multiplies , / divides ,
^ exponents, exit by typing 'out' in operation")
    cv = conNum(input("Enter number: "))
    while True:
        fun = input("Enter operation: ")

        if (fun == "+"):
            cv += conNum(input("Enter number: "))
            print(cv)
        if (fun == "-"):
            cv -= conNum(input("Enter number: "))
            print(cv)
        if (fun.lower() in ("x","*") ):
            cv *= conNum(input("Enter number: "))
            print(cv)
        if (fun == "/"):
            cv /= conNum(input("Enter number: "))
            print(cv)
        if (fun == "^"):
            v = conNum(input("Enter number: "))
            cv=pow(cv,v)
            print(cv)
        if (fun.lower() == "out"):
            break

def VolumeCalc():
    print("Welcome to Volume Calculator, write shape name to find volume ")
    shapeType = input("Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere,
Hemisphere, Frustrum): ")

    if shapeType.lower() == "cube":
```

```
        print("The Volume of Cube is",
        conNum(input("Enter Side: "))**3)
    if shapeType.lower() == "cuboid":
        print("The Volume of Cuboid is",
        conNum(input("Enter Length: "))*conNum(input("Enter Breadth:
"))*conNum(input("Enter Height: ")))
    if shapeType.lower() == "cone":
        print("The Volume of Cone is",
        pi*(conNum(input("Enter radius: "))**2)*conNum(input("Enter height: "))/3)
    if shapeType.lower() == "cylinder":
        print("The Volume of cylinder is",
        pi*(conNum(input("Enter radius: "))**2)*conNum(input("Enter height: ")))
    if shapeType.lower() == "sphere":
        print("The Volume of Sphere is",
        4*pi/3*conNum(input("Enter radius: "))**3)
    if shapeType.lower() == "hemisphere":
        print("The Volume of Hemisphere is",
        2*pi/3*conNum(input("Enter radius: "))**3)
    if shapeType.lower() == "frustrum":
        print("The Volume of Frustrum is",fabs(
        (conNum(input("Enter radius 1: "))**3 - conNum(input("Enter radius 2: "))**3)
* pi / 3 * conNum(input("Enter height: ")) ))

def SAcalc():
    print("Welcome to Surface Area Calculator, write shape name to find Surface Area
")
    shapeType = input("Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere,
Hemisphere, Frustrum): ")

    if shapeType.lower() == "cube":
        print("The Surface Area of Cube is",
        6*conNum(input("Enter Side: "))**2)
    if shapeType.lower() == "cuboid":
        l=conNum(input("Enter Length: "))
        b=conNum(input("Enter Breadth: "))
        h=conNum(input("Enter Height: "))
        print("The Surface Area of Cuboid is",2*(l*b + b*h + h*l))
    if shapeType.lower() == "cone":
        r = conNum(input("Enter radius: "))
        h = conNum(input("Enter height: "))
        print("The Surface Area of Cone is",
        pi * r * (r + (r**2 + h**2)**(1/2)   ))
    if shapeType.lower() == "cylinder":
        r = conNum(input("Enter radius: "))
        h = conNum(input("Enter height: "))
        print("The Surface Area of cylinder is",
        2*pi*r*(r+h))
    if shapeType.lower() == "sphere":
```

```
        print("The Surface Area of Sphere is",
        4*pi*conNum(input("Enter radius: "))**2)
    if shapeType.lower() == "hemisphere":
        print("The Surface Area of Hemisphere is",
        3*pi*conNum(input("Enter radius: "))**2)
    if shapeType.lower() == "frustrum":
        print("The Surface Area of Frustrum is  ",
        (conNum(input("Enter radius 1: ")) + conNum(input("Enter radius 2: "))) * pi *
(conNum(input("Enter height: ")) + 2) )

def TrigCalc():
    a = lambda x,y: x+" of "+str(y)+" is "+str(eval(x+"("+str(y)+")"))
    print("Welcome to trignometric calculator, What operation would you like to
perform?")
    trigOp = input("Enter function(sin,cos,tan,asin,acos,atan): ").lower()
    if trigOp == "sin": print(a(trigOp , float(input("Enter Value: "))))
    elif trigOp == "cos": print(a(trigOp , float(input("Enter Value: "))))
    elif trigOp == "tan": print(a(trigOp , float(input("Enter Value: "))))
    elif trigOp == "asin": print(a(trigOp , float(input("Enter Value: "))))
    elif trigOp == "acos": print(a(trigOp , float(input("Enter Value: "))))
    elif trigOp == "atan": print(a(trigOp , float(input("Enter Value: "))))

def CashCalc():
    print("Welcome to Currency convertor: it converts the currencies to different
forms")
    base = input("Enter a supported currency(USD,EUR,JPY,GBP,AUD,CAD,INR):
").upper()
    val = float(input("Enter amount:"))
    convertto = input("Enter 2nd supported
currency(USD,EUR,JPY,GBP,AUD,CAD,INR): ").upper()
    if base=="USD":
        if convertto=="USD":print("Exchange Value is",val*1)
        if convertto=="EUR":print("Exchange Value is",val*0.93)
        if convertto=="JPY":print("Exchange Value is",val*127.71)
        if convertto=="GBP":print("Exchange Value is",val*0.78)
        if convertto=="AUD":print("Exchange Value is",val*1.4)
        if convertto=="CAD":print("Exchange Value is",val*1.27)
        if convertto=="INR":print("Exchange Value is",val*76.69)
    if base=="EUR":
        if convertto=="USD":print("Exchange Value is",val*1.07)
        if convertto=="EUR":print("Exchange Value is",val*1)
        if convertto=="JPY":print("Exchange Value is",val*136.97)
        if convertto=="GBP":print("Exchange Value is",val*0.84)
        if convertto=="AUD":print("Exchange Value is",val*1.5)
        if convertto=="CAD":print("Exchange Value is",val*1.37)
        if convertto=="INR":print("Exchange Value is",val*82.17)
    if base=="JPY":
        if convertto=="USD":print("Exchange Value is",val*0.0078)
```

```
        if convertto=="EUR":print("Exchange Value is",val*0.0073)
        if convertto=="JPY":print("Exchange Value is",val*1)
        if convertto=="GBP":print("Exchange Value is",val*0.0062)
        if convertto=="AUD":print("Exchange Value is",val*0.011)
        if convertto=="CAD":print("Exchange Value is",val*0.010)
        if convertto=="INR":print("Exchange Value is",val*0.60)
    if base=="GBP":
        if convertto=="USD":print("Exchange Value is",val*1.27)
        if convertto=="EUR":print("Exchange Value is",val*1.19)
        if convertto=="JPY":print("Exchange Value is",val*162.54)
        if convertto=="GBP":print("Exchange Value is",val*1)
        if convertto=="AUD":print("Exchange Value is",val*1.78)
        if convertto=="CAD":print("Exchange Value is",val*1.62)
        if convertto=="INR":print("Exchange Value is",val*97.62)
    if base=="AUD":
        if convertto=="USD":print("Exchange Value is",val*0.71)
        if convertto=="EUR":print("Exchange Value is",val*0.67)
        if convertto=="JPY":print("Exchange Value is",val*91.2)
        if convertto=="GBP":print("Exchange Value is",val*0.56)
        if convertto=="AUD":print("Exchange Value is",val*1)
        if convertto=="CAD":print("Exchange Value is",val*0.91)
        if convertto=="INR":print("Exchange Value is",val*54.77)

    if base=="CAD":
        if convertto=="USD":print("Exchange Value is",val*0.78)
        if convertto=="EUR":print("Exchange Value is",val*0.73)
        if convertto=="JPY":print("Exchange Value is",val*100.04)
        if convertto=="GBP":print("Exchange Value is",val*0.62)
        if convertto=="AUD":print("Exchange Value is",val*1.10)
        if convertto=="CAD":print("Exchange Value is",val*1)
        if convertto=="INR":print("Exchange Value is",val*60.08)
    if base=="INR":
        if convertto=="USD":print("Exchange Value is",val*0.013)
        if convertto=="EUR":print("Exchange Value is",val*0.012)
        if convertto=="JPY":print("Exchange Value is",val*1.67)
        if convertto=="GBP":print("Exchange Value is",val*0.010)
        if convertto=="AUD":print("Exchange Value is",val*0.018)
        if convertto=="CAD":print("Exchange Value is",val*0.017)
        if convertto=="INR":print("Exchange Value is",val*1)



optionType = 0
print("Welcome to General Calculator, It has many options such as volume, area,
trigonometry, currency, general.")
print("Select what you want to use")

while True:
```

```
    optionType = input("Enter your calculator type:\n   1)Volume\n   2)Surface
Area\n   3)Trigonometry\n   4)Currency\n   5)General\n   6)Exit\n\n     ")
    if optionType.lower() == "volume" or optionType.lower() == "1":
        VolumeCalc()
    if optionType.lower() == "surface area" or optionType.lower() == "2":
        SAcalc()
    if optionType.lower() == "trigonometry" or optionType.lower() == "3":
        TrigCalc()
    if optionType.lower() == "currency" or optionType.lower() == "4":
        CashCalc()
    if optionType.lower() == "general" or optionType.lower() == "5":
        simpleCalc()
    if optionType.lower() == "exit" or optionType.lower() == "6":
        break
```

Output-

```
Select what you want to use
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cube
Enter Side: 4
The Volume of Cube is 64
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit
Welcome to General Calculator, It has many options such as volume, area, trigonometry, currency, general.
Select what you want to use
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

    1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cuboid
Enter Length: 4
Enter Breadth: 5
Enter Height: 6
The Volume of Cuboid is 120
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

    1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cone
Enter radius: 4
Enter height: 5
The Volume of Cone is 83.77580409572782
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

    1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cylinder
Enter radius: 5
Enter height: 3
The Volume of cylinder is 235.61944901923448
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

    1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): sphere
Enter radius: 5
The Volume of Sphere is 523.5987755982989
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

    1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): hemisphere
Enter radius: 5
The Volume of Hemisphere is 261.79938779914943
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

     1
Welcome to Volume Calculator, write shape name to find volume
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): frustrum
Enter radius 1: 3
Enter radius 2: 4
Enter height: 5
The Volume of Frustrum is 193.73154697137056
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

     2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cube
Enter Side: 4
The Surface Area of Cube is 96
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

     2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cuboid
Enter Length: 4
Enter Breadth: 5
Enter Height: 6
The Surface Area of Cuboid is 148
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

     2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cone
Enter radius: 7
Enter height: 24
The Surface Area of Cone is 703.7167544041137
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): cylinder
Enter radius: 4
Enter height: 7
The Surface Area of cylinder is 276.46015351590177
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

     2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): sphere
Enter radius: 5
The Surface Area of Sphere is 314.1592653589793
```

```
Enter your calculator type:
   1)Volume
   2)Surface Area
   3)Trigonometry
   4)Currency
   5)General
   6)Exit

2
Welcome to Surface Area Calculator, write shape name to find Surface Area
Enter Shape (Cube, Cuboid, Cone, Cylinder, Sphere, Hemisphere, Frustrum): hemisphere
Enter radius: 7
The Surface Area of Hemisphere is 461.8141200776996
```

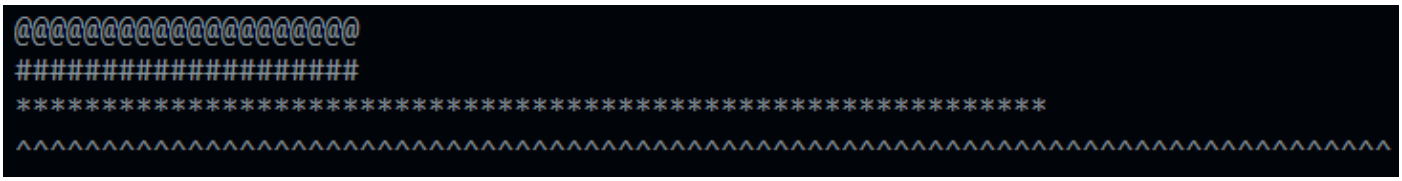
Program 17

Line Drawing function for parameter usage

Source Code-

```
#4/4/22

def drawline(sym,t=20):
    for i in range(t):
        print(sym,end='')
    print()

drawline(sym='@')
drawline('#')
drawline('*',60)
drawline(t=80 ,sym='^')
```

Output-



Program 18

Random Selection (Multiple Methods)

Source Code-

```
#8/4/22

import random
subj = ["Computer Science", "IP", "Physics", "Maths"]

#Method 1:
print(random.choice(subj))

#Method 2:
print(subj[random.randrange(3)])

#Method 3:
random.shuffle(subj)
print(subj[0])


f=['Apple','Mango','Orange','Banana','Avacado']
print('Original list: ',f)
random.shuffle(f)
print('Reshuffled list: ',f)
```

Output-

```
The subjects are ['Computer Science', 'IP', 'Physics', 'Maths']
Output will be one of these
Maths
Computer Science
Computer Science
```

```
The subjects are ['Computer Science', 'IP', 'Physics', 'Maths']
Output will be one of these
Physics
Computer Science
IP
```

```
Original list:  ['Apple', 'Mango', 'Orange', 'Banana', 'Avacado']
Reshuffled list:  ['Avacado', 'Banana', 'Orange', 'Mango', 'Apple']
```

Program 19

Random 3 digit number and Sum (with Alternate methods)

Source Code-

```
#8/4/22

from random import random,randint
n=(random()*900+100)//1
print('The number is: ',n)
s = 0
while n >0:
    s +=n%10
    n//=10
print('The sum of the digits is:',s)

#Alternate Method
n2 = randint(100,999)
print("The number is:",n2)
print("The sum of digits is",sum([int(k) for k in str(n2)]))
```

Output-

```
The number is:  963.0
The sum of the digits is: 18.0
The number is: 629
The sum of digits is 17
```

```
The number is:  493.0
The sum of the digits is: 16.0
The number is: 255
The sum of digits is 12
```

Program 20

List Fillers (random library application for dummy Data Strucuture Analysis)

Source Code-

```
#11/4/22

from random import randint
def fill_list(L , num , min , max):
    for _ in range(num): L.append(randint(min,max))
low , up , elem = int(input("Enter Minimum: ")) , int(input("Enter Maximum: ")) , int(input("Enter total terms: "))
a = []
b = []
fill_list(b,elem,low,up)
print("\n Another set Min:69, Max:420, Total:13")
fill_list(a , min=69 , max=420 , num=13)
print(b)
print(a)
```

Output-

```
Enter Minimum: 10
Enter Maximum: 99
Enter total terms: 15

 Another set Min:69, Max:420, Total:13
[13, 36, 34, 60, 20, 94, 33, 72, 32, 46, 76, 50, 76, 81, 26]
[302, 101, 349, 70, 215, 303, 113, 174, 294, 257, 130, 164, 292]
```

```
Enter Minimum: 4
Enter Maximum: 10
Enter total terms: 18

 Another set Min:69, Max:420, Total:13
[8, 8, 8, 7, 5, 8, 10, 4, 7, 8, 6, 4, 9, 9, 7, 9, 6, 7]
[129, 147, 283, 214, 341, 356, 393, 407, 204, 102, 236, 414, 160]
```

Program 21

Binary Search Algorithm to reduce time complexity

Source Code-

```
#18/4/22

from random import randint

def bin (l,el):
    mid=len(l)//2
    low=(0)
    high=len(l)-1
    passes=0
    while l[mid]!=el and low<=high:
        if el>l[mid]:
            low=mid+1
        else:
            high=mid-1
        mid=(high+low)//2
        passes+=1
    if low>high:
        return None
    else:
        return mid,passes

a=[]
for _ in range(12):
    a.append(randint(1,100))
a.sort()
print(a)
v=int(input('Enter to search: '))
op = bin(a,v)
print("found at index:",op[0],"in",op[1])
```

Output-

```
[15, 25, 29, 36, 50, 66, 70, 72, 72, 81, 83, 96]
Enter to search: 70
found at index: 6 in 0
```

```
[5, 19, 23, 41, 67, 71, 73, 76, 82, 82, 89, 100]
Enter to search: 89
found at index: 10 in 2
```

Program 22

Random application (Lottery Generation)

Source Code-

```
#19/4/22

from random import uniform
print("Lottery number is between 1-100")
a = round(uniform(0,100),4)
print("Random Lottery number is",a)


print("Lottery is won by ticket containing numbers: ")
a = lambda : uniform(1,100)//0.01 /100
print(a(),",",a(),"and",a())
```

Output-

```
Lottery number is between 1-100
Random Lottery number is 26.9845
Lottery is won by ticket containing numbers:
68.77 , 76.28 and 61.94
```

```
Lottery number is between 1-100
Random Lottery number is 8.8546
Lottery is won by ticket containing numbers:
24.82 , 40.72 and 6.3
```

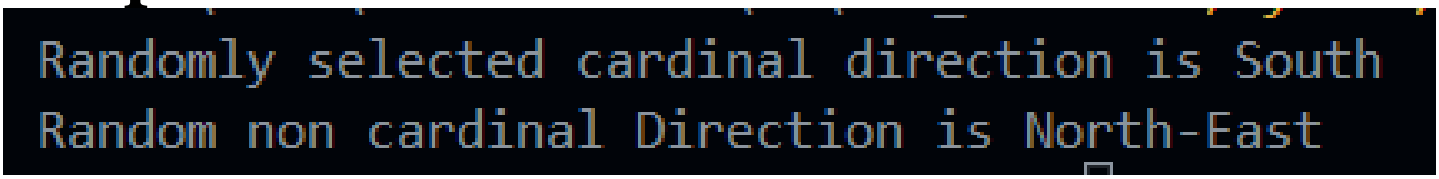
Program 23

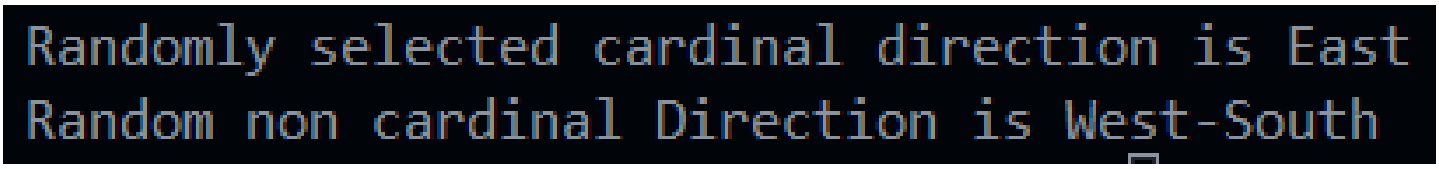
Random application (Direction Selector, Treasure map-precursor)

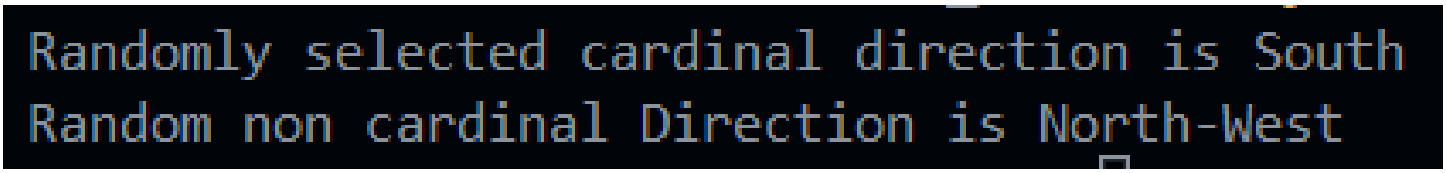
Source Code-

```
#21/4/22

import random

direction = random.choice(["East", "West", "North","South"])
print("Randomly selected cardinal direction is",direction)

def d():
    dir = random.choice(["East", "West", "North","South"])
    return dir
print("Random non cardinal Direction is",d()+"-"+d())
```

Output-







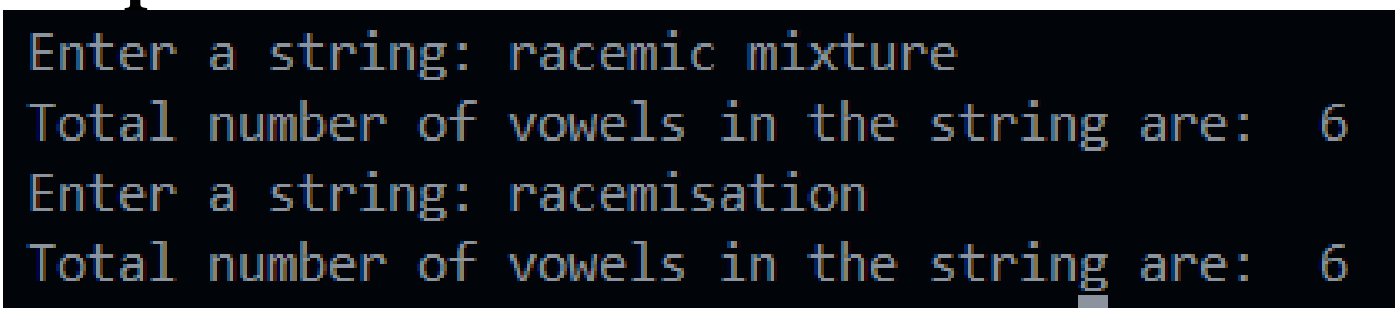
Program 24

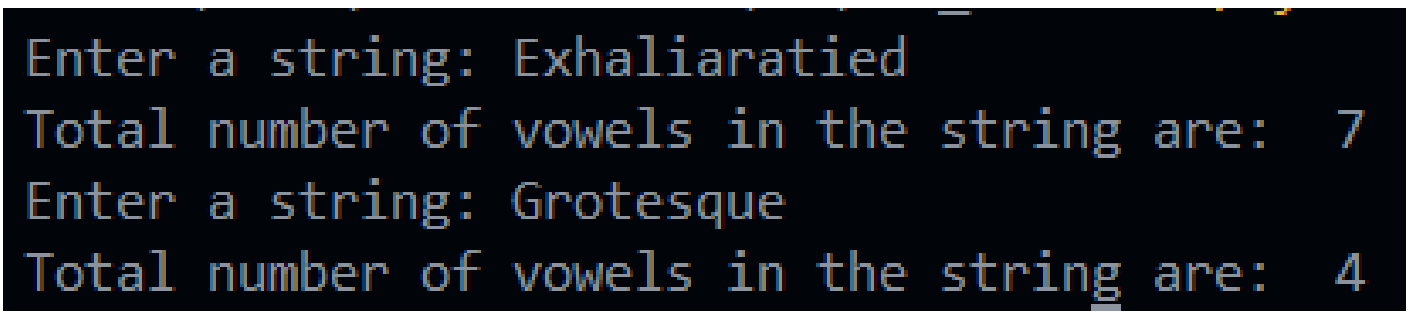
Vowel Counter (Multiple Methods)

Source Code-

```
#22/4/22

#Method 1:
def countvowel(s):
    c=0
    for ch in s:
        if ch in 'aeiouAEIOU':
            c+=1
    return c

sin=input('Enter a string: ')
count=countvowel(sin)
print('Total number of vowels in the string are: ',count)


#Method 2:
def vowelcount(st): return len([" for k in st if st.lower() in "aeiou"])
a=input('Enter a string: ')
d=countvowel(a)
print('Total number of vowels in the string are: ',d)
```

Output-





Program 25

Higher Lower (Simple Guessing Game)

Source Code-

```
#22/4/22
#Higher lower game
import random

initial = round(100000 * random.random())
while True:
    print("number is: ",initial)
    print("Higher or lower\n")
    new = round(100000 * random.random())
    input()
    if new>initial:
        print('its higher')

    if new<initial:
        print('its lower')

    initial = new
```

Output-

```
number is:  39354
Higher or lower

higher
its lower
number is:  37133
Higher or lower

higher
its higher
number is:  47476
Higher or lower

higher
its higher
number is:  70266
Higher or lower

lower
its higher
number is:  93037
Higher or lower
```

```
number is:  80149
Higher or lower

lower
its higher
number is:  85206
Higher or lower

lower
its lower
number is:  60568
Higher or lower

lower
its lower
number is:  1852
Higher or lower

higher
its higher
number is:  83070
Higher or lower
```

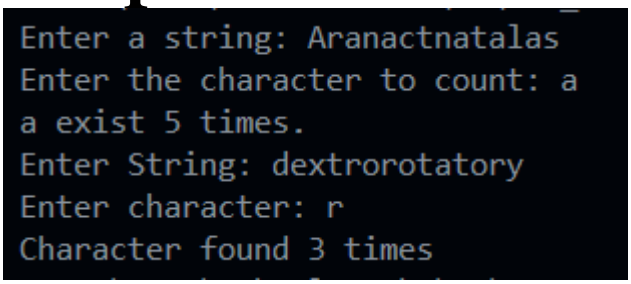
Program 26

Character counter

Source Code-

```
#22/4/22

def countChar(s,ch):
    c=0
    for i in s:
        if i==ch:
            c+=1
    return c
sin=input('Enter a string: ')
ch1=input('Enter the character to count: ')
f=countChar(sin,ch1)
if f==0:
    print(ch1, "does not exist.")
else:
    print(ch1,'exist',f,'times.')

#Alernate Method
chCount = lambda x,y : len(["" for k in x if k == y])
v = chCount(input("Enter String: "),input("Enter character: "))
if v!=0: print("Character found",v,"times")
else: print("Character not found")
```

Output-



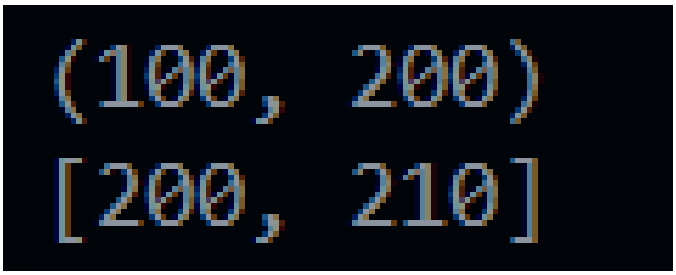
Program 27

Passing Immutables as parameters

Source Code-

```
#22/4/22

#passing immutable tuple to a function

def ttl(A):
    A=list(A)
    A[0]=A[0]*2
    A[1]=A[1]+10
    print(A)

t=(100,200)
print(t)
ttl(t)
```

Output-



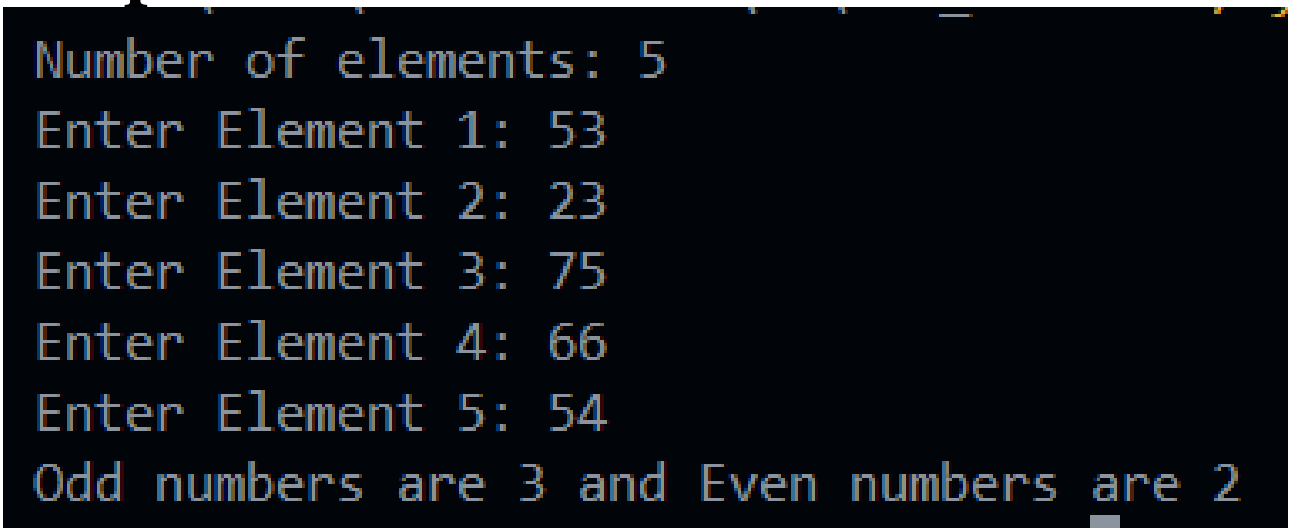
Program 28

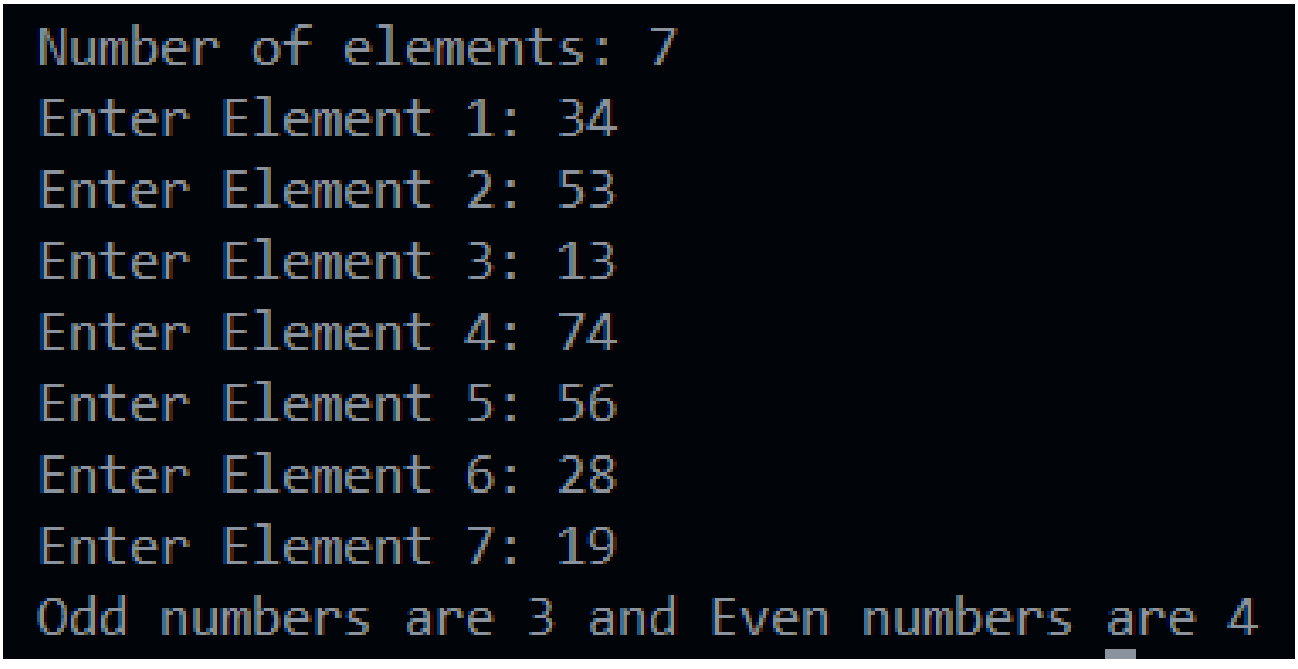
Tuple Sotrage and Multi Value Return Unpacking

Source Code-

```
#22/4/22

def countOddEven(t):
    odd = len([" for k in t if k%2==1])
    return odd , len(t) - odd
store = tuple()
times = int(input("Number of elements: "))

for _ in range(times):
    store+= (int(input("Enter Element "+str(_+1)+": ")),)

a,b = countOddEven(store)
print("Odd numbers are",a , "and Even numbers are",b)
```

Output-





Program 29

Functions for Dictionary undates

Source Code-

```
#22/4/22

def marksu(s,nm):
    s['Marks']+=nm
    s["Status"]="Updated"

s1={'Name':'Akash','Marks':56,'Status':'Old'}
s2={'Name':'Chinmay','Marks':60,'Status':'Old'}
s3={'Name':'Chirag','Marks':50,'Status':'Old'}

print("Original data: ")
print(s1)
print(s2)
print(s3)

marksu(s1,70)
marksu(s2,80)
marksu(s3,75)

print("After updating: ")
print(s1)
print(s2)
print(s3)
```

Output-

```
Original data:
{'Name': 'Akash', 'Marks': 56, 'Status': 'Old'}
{'Name': 'Chinmay', 'Marks': 60, 'Status': 'Old'}
{'Name': 'Chirag', 'Marks': 50, 'Status': 'Old'}
After updating:
{'Name': 'Akash', 'Marks': 126, 'Status': 'Updated'}
{'Name': 'Chinmay', 'Marks': 140, 'Status': 'Updated'}
{'Name': 'Chirag', 'Marks': 125, 'Status': 'Updated'}
```

Program 30

Frequncy Distribution by dictionary purposing

Source Code-

```
#23/4/22

def freq(l):
    d={}
    for i in l:
        if i not in d:
            d[i]=1
        else:
            d[i]+=1
    return d
l1=[1,2,31,4,1,4,6,2,1,6,6,2]
print(freq(l1))
```

Output-

Program 31

Treasure Hunt Map System, It makes a treasure hunt hap based on map number (consistent across reruns)

Source Code-

```
#4/6/22

import random
def dist():
   return str(random.randrange(1,15)*50)

print("Treasure map Hunting")
print("This generates a set of instructions for you to follow")

cardinalDirL = ["North" , "South"]
cardinalDirB = ["East", "West"]
localDirL = ["Forward" , "backward" ]
localDirB = ["Left", "Right"]
type = ["cardinal" , "local"]
#cardinal is north south east west
#local is left right forward backward

mapno = int(input("Enter Map Number: "))
random.seed(mapno)
#same map number yeilds same map each time (psuedo randomism)

steps = random.randrange(10)
path = ""
for k in range(steps):
   random.shuffle(type)
   if type[0]=="cardinal":
      mode = random.choice(["axis" , 'diagonal'])
      if mode == "axis":
         path+=str(k+1)+") Go " + dist() + "m " + random.choice( cardinalDirB +
cardinalDirL )
      if mode == "diagonal":
         path+=str(k+1)+") Go " + dist() + "m " + random.choice( cardinalDirL) + "-"
+ random.choice( cardinalDirB)

   if type[0]=="local":
      mode = random.choice(["axis" , 'diagonal'])
      if mode == "axis":
         path+=str(k+1)+") Go " + dist() + "m " + random.choice( localDirB +
localDirL )
      if mode == "diagonal":
```

```
        path+=str(k+1)+") Go " + dist() + "m " + random.choice( localDirL) + "-" +
random.choice( localDirB)
    path+="\n"
print(path)
```

Output-

```
Treasure map Hunting
This generates a set of instructions for you to follow
Enter Map Number: 76
1) Go 200m South-East
2) Go 250m North
3) Go 200m North-West
4) Go 300m East
5) Go 500m backward-Left
```

```
Treasure map Hunting
This generates a set of instructions for you to follow
Enter Map Number: 423
1) Go 200m backward-Left
2) Go 700m Forward-Right
3) Go 300m East
4) Go 450m South
5) Go 100m Left
```

```
Treasure map Hunting
This generates a set of instructions for you to follow
Enter Map Number: 76
1) Go 200m South-East
2) Go 250m North
3) Go 200m North-West
4) Go 300m East
5) Go 500m backward-Left
```

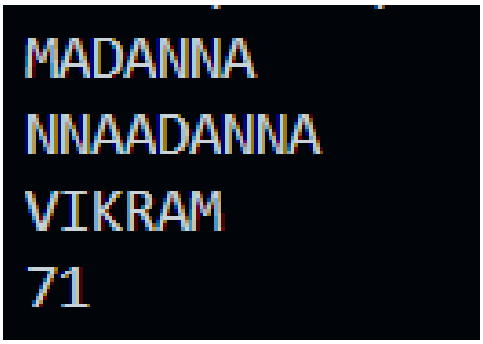
Program 32

WAP using functions as objects and combining them

Source Code-

```
#4/6/22
#using functions as objects and combining them
name = "Madam"
print(name.replace('m','nna').upper())
print(name.upper().replace("M",'NNA'))

name="Vikram"
print(name.replace('im','nt').upper())

#finding number of numbers with a conditional : odd, divisible by 7, leaves remainder 3 on dividing by 5, less than 5000
print(len([x for x in range(5000+1) if x%2==1 and x%7==0 and x%5==3]))
```

Output-



Program 33

WAP for a List Modifier (even/2 and odd x2)

Source Code-

```
#6/5/22

GivenList1 = [458,646,64,385,48,364,77,62,43,59,78]
print("List Before Function is", GivenList1)

def OddEven1(Ls):
    for k in range(len(Ls)):
        if Ls[k] %2==0 : Ls[k]//=2
        else: Ls[k]*=2
OddEven1(GivenList1)

print("List After Method is", GivenList1)
```

Output-

```
List Before Function is [458, 646, 64, 385, 48, 364, 77, 62, 43, 59, 78]
List After Method is [229, 323, 32, 770, 24, 182, 154, 31, 86, 118, 39]
```

Program 34

WAP to apply matrices and find out the transeverse

Source Code-

```
#6/5/22

def MatrixPrintDiagonal(l):
    for i in range(len(l)):
        for j in range(len(l[i])):
            if i==j:
                print(l[i][j],end='\t')
            else:
                print('',end='\t')
        print()

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

MatrixPrintDiagonal(m)
```

Output-

Program 35

WAP input from user processes sum and average

Source Code-

```
#6/5/22

def avgs(l):
    s=0
    for i in l:
        s+=i
    avg=s/len(l)
    return s,avg
l1=[]
n=int(input('Enter how many numbers: '))
for i in range(n):
    num=int(input('Enter any number: '))
    l1.append(num)
print(l1)
savg=avgs(l1)
print('Sum= ',savg[0],'Average= ',savg[1])
```

Output-

```
Enter how many numbers: 5
Enter any number: 9905
Enter any number: 0506
Enter any number: 3011
Enter any number: 0812
Enter any number: 0308
[9905, 506, 3011, 812, 308]
Sum=  14542 Average=  2908.4
```

```
Enter how many numbers: 6
Enter any number: 91
Enter any number: 322
Enter any number: 45
Enter any number: 21
Enter any number: 56
Enter any number: 8
[91, 322, 45, 21, 56, 8]
Sum=  543 Average=  90.5
```

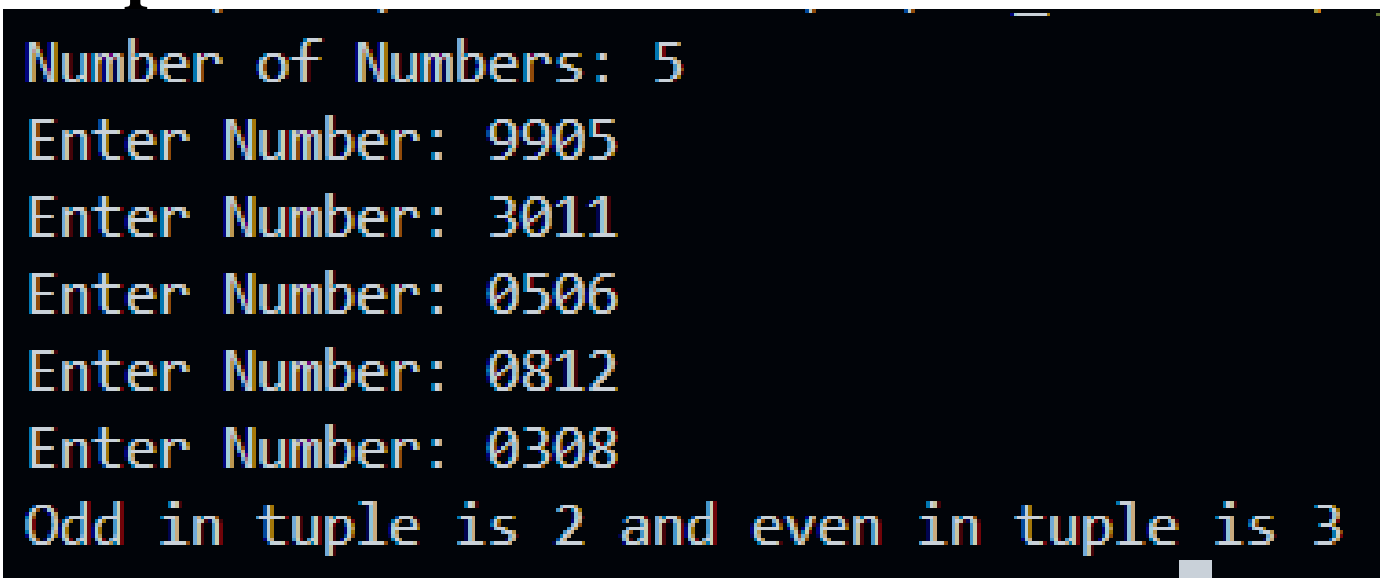
Program 36

WAP

Source Code-

```
#6/5/22

def OEcount(mytuple):
    even = len(["" for k in mytuple if k%2==0])
    odd = len(mytuple) - even
    return odd,even

n = int(input("Number of Numbers: "))
tup = ()
for _ in range(n): tup += (int(input("Enter Number: ")),)
o,e = OEcount(tup)
print("Odd in tuple is",o,"and even in tuple is",e)
```

Output-



Program 37

WAP to Jumble cases and replace numbers and symbols

Source Code-

```
#19/5/22

def j(s):
    sn1=''
    for i in range(len(s)):
        if s[i].islower(): sn1+=s[i].upper()
        elif s[i].isupper(): sn1+=s[i].lower()
        elif s[i].isdigit(): sn1+="*"
        else: sn1+='@'
    return sn1
print(j("LumberiNATIONi5aster*2001*11*09"))
```

Output-

FILE HANDLING IN PYTHON

Program 38

Finding size of text file.

Source Code-

```
#6/6/22

import sd

myfile=open('p28.txt','r')
str1=' '
size=0
tsize=0

while str1:
    str1=myfile.readline()
    tsize=tsize+len(str1)
    size=size+len(str1.strip())

print('Total size: ',tsize)
print('Size after removing EOL and blank spaces: ',size)
myfile.close()
```

Text File-

classXII > practicals > term1 > p28.txt

```
1  Hye!
2  This is my first program in file handling.
3  I am practicing to make a project for the midterm project.
```

Output-

```
Total size:  107
Size after removing EOL and blank spaces:  104
```

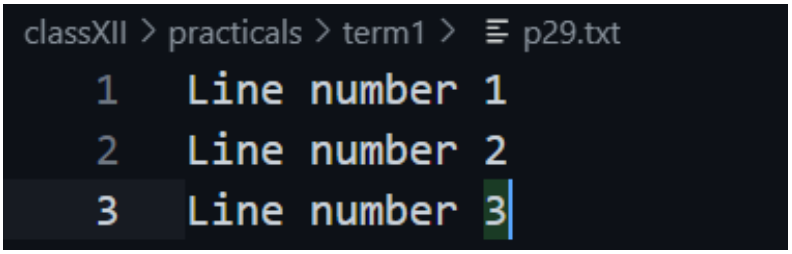
Program 39

WAP to read from a file

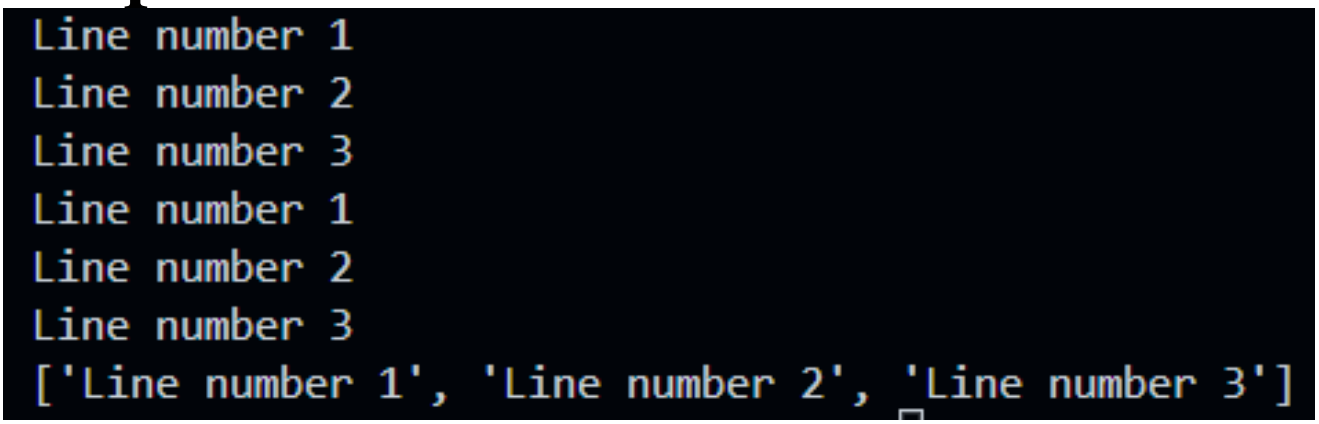
Source Code-

```
#6/6/22
import sd
#method 1 to read
myfile1 = open("p29.txt", "r")
for line in myfile1:
   print(line,end="")
print()
myfile1.close()
#method 2 to read
myfile1 = open("p29.txt", "r")
for line in myfile1.readlines():
   print(line.rstrip("\n"))
myfile1.close()
#method 3 to read
myfile1 = open("p29.txt", "r")
a = [line.strip("\n") for line in myfile1]
print(a)
myfile1.close()
```

Text File-



Output-



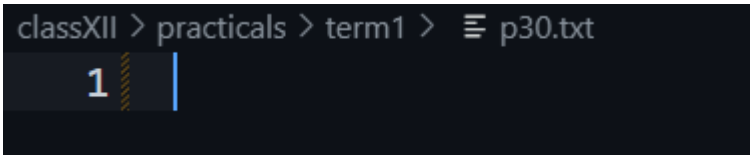
Program 40

WAP to write data into a file

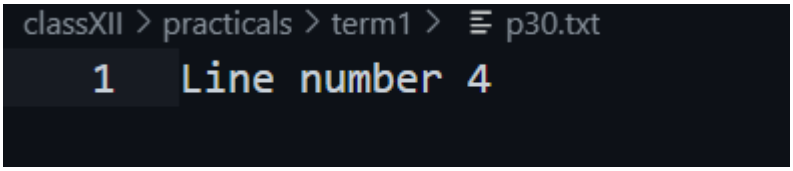
Source Code-

```
#6/6/22

import sd

myfile=open('p30.txt','w')

myfile.writelines('Line number 4')

myfile.close()

print('Data saved in the file.')
```

Text File before-



Text File after-



Output-

```
Data saved in the file.
```

Program 41

WAP to read from File (#1)

Source Code-

```
#6/6/22

import sd

myfile = open("p31.txt" , 'r+')
data = [line for line in myfile]
[print(k.rstrip("\n")) for k in data]

myfile.seek(0)
myfile.writelines(data)
myfile.close()
```

Text File-

classXII > practicals > term1 > p31.txt

```
1  writer
2  whiter
3  tighter
4  mighter
```

Output-

```
writer
whiter
tighter
mighter
```

Program 42

Source Code-

Output-

Program

Source Code-

Output-

Program

Source Code-

Output-

Program

Source Code-

Output-

Program

Source Code-

Output-

Program

Source Code-

Output-

Program

Source Code-

Output-

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Program

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Program

Source Code-

Output-