Ex.No. 2 PYTHON PROGRAMING USING SIMPLE STATEMENTS AND EXPRESSIONS

Date: 07/12/22

1.SWAPPING OF TWO NUMBERS [METHOD 1]

p = int(input("Enter the First Value :")) #getting Input from User

q = int(input("Enter the Second Value :"))

print("The values before swapping are",p,q) #To display

temp = p

p = q

q = temp

print("The Values after swapping are",p,q) #To display

OUTPUT

Enter the First Value :8

Enter the Second Value :10

The values before swapping are 8 10

The Values after swapping are 10 8

# SWAPPING TWO NUMBERS - METHOD 2 [USING COMMA (,) OPERATOR]

s = int(input("Enter the First Value :"))

t = int(input("Enter the Second Value :"))

print("The values before Swapping : ",s,t) #To display

s, t = s, t #Condition

print("The values after Swapping : ",s,t) #To display

OUTPUT

Enter the First Value :56

Enter the Second Value :78

The values before Swapping : 56 78

The values after Swapping : 56 78

# SWAPPING TWO NUMBERS - METHOD 3 [USING ARITHMETIC OPERATOR]

x = int(input("Enter the First Value :"))

y = int(input("Enter the Second Value :"))

print("The Values before Swapping are",x,y) #To display

x = x + y

y = x - y

x = x - y

print("The Values after Swapping are",x,y) #To display

Enter the First Value :87

Enter the Second Value :92

The Values before Swapping are 87 92

The Values after Swapping are 92 87

# SWAPPING TWO NUMBERS - METHOD 4 [USING XOR GATE]

j = int(input("Enter the First value :"))

k = int(input("Enter the Second value :"))

print("The Values before Swapping are",j,k) #To display

j = j ^ k

k = j ^ k

j = j ^ k

print("The Values after Swapping are",j,k) #To display

OUTPUT

Enter the First value :11

Enter the Second value :33

The Values before Swapping are 11 33

The Values after Swapping are 33 11

2. CIRCULATE THE VALUES OF n VARIABLES (METHOD-1 Using Inbuilt function)

s=int(input("Enter a the Values in the List :"))

list=[]

for i in range(0,s):

element=int(input("Enter the Value :"))

list.append(element)

print("Circulating the list")

for i in range(0,s):

element\_deleted=list.pop(0)

list.append(element\_deleted)

print(" The Circulated list after",i+1,"rotation",list)

OUTPUT

Enter a the Values in the List :8

Enter the Value :67

Enter the Value :43

Enter the Value :89

Enter the Value :7

Enter the Value :33

Enter the Value :27

Enter the Value :98

Enter the Value :65

Circulating the list

The Circulated list after 1 rotation [43, 89, 7, 33, 27, 98, 65, 67]

The Circulated list after 2 rotation [89, 7, 33, 27, 98, 65, 67, 43]

The Circulated list after 3 rotation [7, 33, 27, 98, 65, 67, 43, 89]

The Circulated list after 4 rotation [33, 27, 98, 65, 67, 43, 89, 7]

The Circulated list after 5 rotation [27, 98, 65, 67, 43, 89, 7, 33]

The Circulated list after 6 rotation [98, 65, 67, 43, 89, 7, 33, 27]

The Circulated list after 7 rotation [65, 67, 43, 89, 7, 33, 27, 98]

The Circulated list after 8 rotation [67, 43, 89, 7, 33, 27, 98, 65]

# CIRCULATE THE VALUES OF n VARIABLES (METHOD-2)

def circulate(c,n):

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

d=c[i:]+c[:i]

print("Circulate","=",d)

return

c=[178,289,324,448,570,698,188,842,956,106]

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

circulate (c,n)

OUTPUT

Enter n :6

Circulate = [289, 324, 448, 570, 698, 188, 842, 956, 106, 178]

Circulate = [324, 448, 570, 698, 188, 842, 956, 106, 178, 289]

Circulate = [448, 570, 698, 188, 842, 956, 106, 178, 289, 324]

Circulate = [570, 698, 188, 842, 956, 106, 178, 289, 324, 448]

Circulate = [698, 188, 842, 956, 106, 178, 289, 324, 448, 570]

Circulate = [188, 842, 956, 106, 178, 289, 324, 448, 570, 698]

3.DISTANCE BETWEEN TWO POINTS

x1=int(input("Enter the Value of x1 :"))

x2=int(input("Enter the Value of x2 :"))

y1=int(input("Enter the Value of y1 :"))

y2=int(input("Enter the Value of y2 :"))

D1=(x2-x1)\*\*2

D2=(y2-y1)\*\*2

result=(D1+D2)\*\*0.5

print("Distance between",(x1,x2),"and",(y1,y2),"is : ",result)

OUTPUT

Enter the Value of x1 :2

Enter the Value of x2 :6

Enter the Value of y1 :4

Enter the Value of y2 :8

Distance between (2, 6) and (4, 8) is : 5.656854249492381

**PRACTICE PROBLEMS**

1.ARITHMETIC CALCULATION

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

b=int(input("Enter the second number:"))

print("Answer for the addition operation :",a+b)

print("Answer for the subtraction operation :",a-b)

print("Answer for the multiplication operation :",a\*b)

print("Answer for the division operation :",a/b)

print("Answer for the modula operation :",a%b)

OUTPUT

Enter the first number:45

Enter the second number:5

Answer for the addition operation : 50

Answer for the subtraction operation : 40

Answer for the multiplication operation : 225

Answer for the division operation : 9.0

Answer for the modula operation : 0

2.CALCULATE TOTAL COST OF APPLE

a=int(input("Enter cost of one kg of apple :"))

b=int(input("Enter the weight of apples :"))

total\_cost=a\*b

print("The total cost of apple =",total\_cost)

OUTPUT

Enter cost of one kg of apple :120

Enter the weight of apples :6

The total cost of apple = 720

3.CONVERT FAHRENHEIT TO CELSIUS

f= int(input("Enter the temperature in fahrenheit ="))

c=(f-32)\*5/9

print("Temperature in celsius =",c)

OUTPUT

Enter the temperature in fahrenheit =232

Temperature in celsius = 111.11111111111111

4.APPLY 5% DISCOUNT ON TOTAL COST OF N BOOKS

total=0

n= int(input("Enter the number of books ="))

list=[]

for i in range(0,n):

element=int(input("Enter the cost of book ="))

list.append(element)

for i in range(1,):

total=sum(list)-5/100

print("The total cost of",n,"books",total)

i=i+1

OUTPUT

Enter the number of books =5

Enter the cost of book =500

Enter the cost of book =500

Enter the cost of book =500

Enter the cost of book =500

Enter the cost of book =500

The total cost of 5 books 2499.95

4.LEAP YEAR OR NOT

year=int(input("Enter the year:"))

if(year%4==0)or(y%100!=0)and(y%4==0):

print("The given year is a leap year")

else:

print("The g9iven year is not a leap year")

OUTPUT

Enter the year:2012

The given year is a leap year

5.PRIME OE NOT

n=int(input("Enter the value of a:"))

p=False

if n>1:

for i in range(2,n):

if n%i==0:

p=True

if p:

print("Not Ptime")

else:

print("Prime")

6.SIMPLE INTEREST

p=int(input("Enter the principal ="))

r=int(input("Enter the rate ="))

t=int(input("Enter the time in years ="))

a=p\*(1+r\*t)/100

print("The simple interest=",a)

OUTPUT

Enter the principal =1000

Enter the rate =4

Enter the time in years =2

The simple interest= 90.0