07/12/2022

PYTHON LAB RECORD-2

22CSEA52

PRANAV M V

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| EXP NO : 1  DATE : 07/12/22 |

**Exchange of the Values**

**AIM:**

To Perform swapping of two values using simple statements and expressions in Python

**ALGORITHM-1:**

**Step 1:** Get the value of a

**Step 2:** Get the value of b

**Step 3:** Assign the value of temp=0

**Step 4:** Display The value before Swapping a,b

**Step 5:** temp=a

**Step 6:** a=b

**Step 7:** b=temp

**Step 8:** Display The value after Swapping a,b

**Step 9:** Stop

**PROGRAM-1:**

a=int(input("Enter number 1:"))

b=int(input("Enter number 2:"))

temp=0

print("The values before swapping :",a," ",b)

temp=a

a=b

b=temp

print("The values after swapping :",a," ",b)

**OUTPUT-1:**

Enter number 1:5

Enter number 2:2

The values before swapping: 5 2

The values after swapping: 2 5

**ALGORITHM-2:**

**Step 1:** Get the value of a

**Step 2:** Get the value of b

**Step 3:** Display The value before Swapping a,b

**Step 4:** a,b=b,a

**Step 5:** Display The value after Swapping a,b

**Step 6:** Stop

**PROGRAM-2:**

a=int(input("Enter number 1:"))

b=int(input("Enter number 2:"))

print("The values before swapping :",a," ",b)

a,b=b,a

print("The values after swapping :",a," ",b)

**OUTPUT-2:**

Enter number 1:5

Enter number 2:2

The values before swapping: 5 2

The values before swapping: 2 5

**ALGORITHM-3:**

**Step 1:** Get the value of a

**Step 2:** Get the value of b

**Step 4:** Display The value before Swapping a,b

**Step 5:** a=a+b

**Step 6:** b=a-b

**Step 7:** a=a-b

**Step 8:** Display The value after Swapping a,b

**Step 9:** Stop

**PROGRAM-3:**

a=int(input("Enter number 1:"))

b=int(input("Enter number 2:"))

print("The values before swapping :",a," ",b)

a=a+b

b=a-b

a=a-b

print("The values after swapping :",a," ",b)

**OUTPUT-3:**

Enter number 1:5

Enter number 2:2

The values before swapping: 5 2

The values after swapping: 2 5

**ALGORITHM-4:**

**Step 1:** Get the value of a

**Step 2:** Get the value of b

**Step 4:** Display The value before Swapping a,b

**Step 5:** a=a^b

**Step 6:** b=a^b

**Step 7:** a=a^b

**Step 8:** Display The value after Swapping a,b

**Step 9:** Stop

**PROGRAM-4:**

a=int(input("Enter number 1:"))

b=int(input("Enter number 2:"))

print("The values before swapping :",a," ",b)

a=a+b

b=a-b

a=a-b

print("The values after swapping :",a," ",b)

**OUTPUT-3:**

Enter number 1:5

Enter number 2:2

The values before swapping: 5 2

The values after swapping: 2 5

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 2  DATE : 07/12/22 |

**Circulating the List of values**

**AIM:**

To Perform Circulating the value in the list using simple statements and expressions in Python

**ALGORITHM-1:**

**Step 1:** Get the value of n

**Step 2:** Assign l[]

**Step 3:** Check for the condition for i=0 to n if true goto 4 else goto 6

**Step 4:** Get value of x

**Step 5:** append x to l[]

**Step 6:** Get number of rotation a

**Step 7:** Check for the condition for i=0 to a if true goto 8 else goto 11

**Step 8:** Assign b = l.pop(0)

**Step 9:** append b to l[]

**Step 10:** Print the circulated list b

**Step 11:** Stop

**PROGRAM-1:**

n=int(input("Enter the number of values in the list :"))

l=[]

for i in range(0,n):

x=int(input("Enter the value :"))

l.append(x)

a=int(input("Enter number of rotation :"))

for i in range(0,a):

b=l.pop(0)

l.append(b)

print("The circulate list is :",l)

**OUTPUT-1:**

Enter the number of values in the list :3

Enter the value :1

Enter the value :2

Enter the value :5

Enter number of rotation :2

The circulate list is : [2, 5, 1]

The circulate list is : [5, 1, 2]

**ALGORITHM-2:**

**Step 1:** Get the value of n

**Step 2:** Assign l[]

**Step 3:** Check for the condition for i=0 to n if true goto 4 else goto 7

**Step 4:** Get value of x

**Step 5:** append x to l[]

**Step 6:** Display circulating the list…

**Step 7:** Get number of rotation a

**Step 8:** Check for the condition for i=0 to a if true goto 9 else goto 11

**Step 9:** Compute l=l[1:]+l[:1]

**Step 10:** Print the circulated list b

**Step 11:** Stop

**PROGRAM-2:**

n=int(input("Enter the number of values in the list :"))

l=[]

for i in range(0,n):

x=int(input("Enter the value :"))

l.append(x)

print("Circulating the list....")

a=int(input("Enter the number of rotation :"))

for i in range(0,a):

l=l[1:]+l[:1]

print("The circulate list is :",l)

**OUTPUT-2:**

Enter the number of values in the list :3

Enter the value :1

Enter the value :2

Enter the value :5

Enter number of rotation :2

The circulate list is : [2, 5, 1]

The circulate list is : [5, 1, 2]

**RESULT:**

Thus the result for the given Program is obtained

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| EXP NO : 3  DATE : 07/12/22 | **Distance between Two points** |

**AIM:**

To Calculate distance between Two points using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start.

Step 2: Import math.

Step 3: Get the value of x1.

Step 4: Get the value of y1.

Step 5: Get the value of x2.

Step 6: Get the value of y2.

Step 7: Calculate the distance using the formula .

D=(pow(x2-x1,2)+pow(y2-y1,2))\*\*1/2

Step 8: Display the distance D.

Step 9: Stop.

**PROGRAM:**

import math

print("To find the distance between two points")

x1=int(input("Enter x1 value : "))

y1=int(input("Enter x2 value : "))

x2=int(input("Enter y1 value : "))

y2=int(input("Enter y2 value : "))

d=(pow(x2-x1,2)+pow(y2-y1,2))\*\*1/2

print("The distance between the points is",d)

**OUTPUT:**

To find the distance between two points

Enter x1 value : 40

Enter x2 value : 50

Enter y1 value : 35

Enter y2 value : 90

The distance between the points is 40.311288741492746

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 4  DATE : 07/12/22 | **TO PERFORM ARITHMETIC**  **OPERATIONS ON TWO VALUES** |

**AIM:**

To Perform Arithmetic operations on two values using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start

Step 2: Get the value of a.  
  
Step 3: Get the value of b.  
  
Step 4: Calculate and print "The ADDITION Value IS!".  
  
Step 5: Calculate and prind "The SUBRACTION Value IS!".  
  
Step 6: Calculate and print "The MULTIPLICATION value is!".  
  
Step 1: Calculate and display" The QUOTIENT VALUE 13:'-  
  
Step 8 Calculate and display "the REMAINDER Value IS!"  
  
Shep 9: Stop.

**PROGRAM:**

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

b=int(input("Enter value of b : "))

print("The ADITTION value is :",a+b)

print("The SUBRACTION value is : ",a-b)

print("The MULTIPLICATION value is : ",a\*b)

print("The QUOTIENT value is : ",a/b)

print("The REMAINDER value is : ",a%b)

**OUTPUT:**

Enter value of a : 20

Enter value of b : 10

The ADITTION value is : 30

The SUBRACTION value is : 10

The MULTIPLICATION value is : 200

The QUOTIENT value is : 2.0

The REMAINDER value is : 0

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 5  DATE : 07/12/22 | **Weight of the apple** |

**AIM:**

To Calculate Weight of the apples using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start  
  
step 2: On the test of 1kg Apple W

Step 3: Enter the total weight of apples Bought  
  
Step 4: Calculate the total cost of apple.

Step 5: Display Total cost  
  
Step 6 Stop

**PROGRAM:**

a=int(input("Enter Cost of 1 kg of apple : "))

b=int(input("Enter Total Weight of Apples Bought : "))

print("The total cost of the apple is",a\*b,"Rs/-")

**OUTPUT:**

Enter Cost of 1 kg of apple : 120

Enter Total Weight of Apples Bought : 5

The total cost of the apple is 600 Rs/-

**RESULT:**

Thus the result for the given Program is obtained

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| EXP NO : 6  DATE : 07/12/22 | **Fahrenheit into Celsius** |

**AIM:**

To Convert Fahrenheit into Celsius using simple statements and expressions in Python

**ALGORITHM:**

Step 1 : Start

Step 2: Get the Fahrenheit value in degree a  
  
Step 3: Calculate Celsius Fusing the formula c=( F – 32 ) 5 / 9 .

Step 4: Display Celsius c.  
  
Step 5: Stop.

**PROGRAM:**

a=int(input("Enter Fahrenheit value F in degrees: "))

c=( F – 32 ) 5 / 9

print("The Celsius value is : ",c)

**OUTPUT:**

Enter Fahrenheit value F in degrees : 28

The Celsius value is : 82.4

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 7  DATE : 07/12/22 | **Calculate price of a book** |

**AIM:**

To Calculate price of a book with discount using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start  
  
Step 2: Get the Price of book  
  
Step 4: Calculate discount amount using formula disc = a\*5/100.   
  
Step 5: Display the discount amount

Step 6: Display Calculate Bill price using not = a-disc  
  
Step 7: Display the Bill Price

Step 8 : Stop

**PROGRAM:**

a=int(input("Enter Price Of Book bought : "))

b=int(input("Enter The discount amount : "))

disc=(a\*b)/100

net=a-disc

print("The Discount price is : ",disc)

print("The Bill price is : ",net)

**OUTPUT:**

Enter Price Of Book bought : 600

Enter The discount amount : 45

The Discount price is : 270.0

The Bill price is : 330.0

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 8  DATE : 07/12/22 | **Prime number or not** |

**AIM:**

To Calculate Prime number or not using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start  
  
Step 2: initialise i=2  
  
Step 4: Get the value to be checked as n  
  
Step 5: Check for the condition i<=n it true goto 6 step 4.1

4.1: Divide I by n and check weather remainder is 0 increase I by 1 and goto step 4

4.2: If false goto step5  
  
Step 7: Display the number as prime and goto step 7

Step 6: Display not prime

Step 8 : Stop

**PROGRAM:**

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

i=2

for i in range(2,n):

if n%1==0:

p=True

if True:

print("Not Prime")

else:

print("Prime")

**OUTPUT:**

Enter number :4

Not Prime

Enter number :1

Prime

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 9  DATE : 07/12/22 |

**Leap year or not**

**AIM:**

To Calculate price of a book with discount using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start  
  
Step 2: Get the Year as y  
  
Step 4: Chech for the condition. if((y%400==0) or (y%100!=0) and (y%4==0)): if true goto step5 else goto

step 6  
  
Step 5: Display Leap year

Step 6: Display Not a Leap year  
  
Step 7: Display the Bill Price

Step 8 : Stop

**PROGRAM:**

y=int(input("Enter number :"))

if((y%400==0) or (y%100!=0) and (y%4==0)):

print("Leap Year")

else:

print("Not a Leap year")

**OUTPUT:**

Enter number :2020

Leap Year

Enter number :1900

Not a Leap year

**RESULT:**

Thus the result for the given Program is obtained.

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| EXP NO : 10  DATE : 07/12/22 | **Simple Interest** |

**AIM:**

To Calculate Simple Interest using simple statements and expressions in Python

**ALGORITHM:**

Step 1: Start.  
  
step 2: Get Principle balance amount P.

Step 3: Get Annual Intrest rate r.  
  
Step 4: Get Time in Years t.

Step 5: Calculate annual interest rate using the formula  
  
A = p ( 1 + r \* t)  
  
Step 6: Display Annual Interest rate.

Slep 7: Stop.

**PROGRAM:**

p=float(input("Enter the Principle balance amount P : "))

r=float(input("Enter the annual interest rate r : "))

t=float(input("Enter the Time in Years t : "))

A = p ( 1 + r \* t )

print("The annual interest rate is A : ",a)

**OUTPUT:**

Enter the Principle balance amount P : 10000

Enter the annual intreat rate r : 5.6

Enter the Time in Years t : 5

The annual intrest rate is A : 280000.0

**RESULT:**

Thus the result for the given Program is obtained.