EXPT. NO.2.a *SWAP TWO NUMBERS*

**AIM:**

To write a program for swapping two numbers

**CODE:**

# By using a temporary variable ‘c’ (temp)

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

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

print("The value before swapping",a,b)

c=a

a=b

b=c

print("The value after swapping",a,b)

**SAMPLE OUTPUT:**

Enter value of a:20

Enter value of b:30

The value before swapping 20 30

The value after swapping 30 20

**CODE:**

# By using comma(,) operator

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

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

print("The value before swapping",a,b)

a,b=b,a

print("The value after swapping",a,b)

**SAMPLE OUTPUT:**

Enter value of a:12

Enter value of b:13

The value before swapping 12 13

The value after swapping 13 12

**CODE:**

# By using the arithmetic operator (+) and (-)

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

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

print("The value before swapping",a,b)

a=a+b

b=a-b

a=a-b

print("The value after swapping",a,b)

**SAMPLE OUTPUT:**

Enter value of a:2

Enter value of b:6

The value before swapping 2 6

The value after swapping 6 2

**CODE:**

# By using the arithmetic operator (\*) and (//)

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

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

print("The value before swapping",a,b)

a=a\*b

b=a//b

a=a//b

print("The value after swapping",a,b)

**SAMPLE OUTPUT:**

Enter value of a:4

Enter value of b:6

The value before swapping 4 6

The value after swapping 6 4

**CODE:**

# By using XOR operator

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

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

print("The value before swapping",a,b)

a=a^b

b=a^b

a=a^b

print("The value after swapping",a,b)

**SAMPLE OUTPUT:**

Enter value of a:50

Enter value of :100

The value before swapping 50 100

The value after swapping 100 50

**RESULT:**

The program to swap two numbers using a temporary variable, arithmetic operators and XOR operator is written.

EXPT. NO.2.b *CIRCULATING THE LIST OF NUMBERS*

**AIM:**

The program to circulate the list of ‘n’ numbers.

**CODE:**

# Method 1

v=int(input("Enter number of values in list"))

L=[ ]

for i in range(0,v):

ele=int(input("Enter the value"))

L.append(ele)

print("Circulating the list")

for i in range(0,v):

dele=L.pop(0)

L.append(dele)

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

**SAMPLE OUTPUT:**

Enter number of values in list4

Enter the value1

Circulating the list

Enter the value3

Circulating the list

Enter the value5

Circulating the list

Enter the value7

Circulating the list

The Circulated list after 1 rotation [3, 5, 7, 1]

The Circulated list after 2 rotation [5, 7, 1, 3]

The Circulated list after 3 rotation [7, 1, 3, 5]

The Circulated list after 4 rotation [1, 3, 5, 7]

**CODE:**

# Method 2 based on the number of rotations

v=int(input("Enter number of values in list"))

L=[ ]

for i in range(0,v):

ele=int(input("Enter the value"))

L.append(ele)

print("Circulating the list")

n=int(input("Enter number of rotations"))

for i in range(0,n):

L=L[1:]+L[:1]

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

**SAMPLE OUTPUT:**

Enter number of values in list4

Enter the value1

Circulating the list

Enter the value3

Circulating the list

Enter the value5

Circulating the list

Enter the value7

Circulating the list

Enter number of rotations4

The Circulated list after 1 rotation [3, 5, 7, 1]

The Circulated list after 2 rotation [5, 7, 1, 3]

The Circulated list after 3 rotation [7, 1, 3, 5]

The Circulated list after 4 rotation [1, 3, 5, 7]

EXPT. NO.2.C DISTANCE BETWEEN TWO POINTS

**AIM:**

To write a program to calculate the distance between two points

**CODE:**

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

x2=int(input("value of x2:"))

y1=int(input("value of y1:"))

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

d=((x2-x1)\*\*2+(y2-y1)\*\*2)\*\*0.5

print("distance",d)

**SAMPLE OUTPUT:**

value of x1:7

value of x2:5

value of y1:4

value of y2:2

distance 2.8284271247461903

**RESULT:**

The program to calculate the distance between two points is written and executed

EXPT. NO.2.d *FACTORIAL OF A NUMBER*

**AIM:**

To write a program to calculate the factorial of a number.

**CODE:**

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

fact=1

if n<0:

print("The factorial does not exist")

elif n==0:

print("The factorial of 0 is 1")

else:

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

fact=fact\*i

print("The factorial of",n,"is",fact)

**SAMPLE OUTPUT:**

Enter the value of n:5

The factorial of 5 is 120

EXPT. NO. 2.e *FIND ODD OR EVEN*

**AIM:**

To write a program to find whether a number is odd or even.

**CODE:**

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

if num%2==0:

print("The number is even")

else:

print("The number is odd")

**SAMPLE OUTPUT:**

Enter a number:6

The number is even

EXPT. NO. 2.f *FIND A YEAR IS LEAP YEAR OR NOT A LEAP YEAR*

**AIM:**

To write a program to check whether a year is leap year or not

**CODE:**

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

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

print("Leap Year")

else:

print("Not a Leap Year")

**SAMPLE OUTPUT:**

Enter Year:1984

Leap Year

EXPT. NO. 2.g *PRIME OR NOT A PRIME*

**AIM:**

To write a program to check whether the entered number is a prime or not a prime number.

**CODE:**

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

if n>1:

for i in range (2, int(n/2)+1):

if (n%i)==0:

print("The number is not a prime")

break

else:

print("The number is prime ")

else:

print("The number is not a prime number")

**SAMPLE OUTPUT:**

Enter a number:8

The number is not a prime

EXPT. NO. 2h TOTAL COST OF APPLES

AIM:

To write a program to find the total cost of the apples

CODE:

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

p = int(input("Enter the unit price "))

h = n \* p

print(h)

SAMPLE OUTPUT:

Enter the number of apples10

Enter the unit price 2

20

RESULT:

The program to find the total cost of the apples is calculated.

EXPT. NO. 2.I CONVERT CELSIUS TO FAHRENHEIT

AIM:

To write a program to convert the Celsius to Fahrenheit.

CODE:

celsius=int(input("Enter the celcius:"))

fahrenheit= (celsius \* 1.8) + 32

print('%0.1f degree Celsius is equal to %0.1f degree Fahrenheit' %(celsius,fahrenheit))

SAMPLE OUTPUT:

Enter the celcius:0

0.0 degree Celsius is equal to 32.0 degree Fahrenheit

EXPT. NO.2.J TOTAL COST OF N BOOKS AND 5% DISCOUNT

AIM:

To write a program to calculate the total cost of n books and apply 5% discount

CODE:

N=int(input("Enter the number of books purchased"))

i=1

tot=0

if (i<=N):

p=int(input("Enter the unit price of the book"))

qty=int(input("Enter the no.of.quantities"))

sub\_total=p\*qty

total=tot+sub\_total

discount=total\*5/100

print("The total price is",discount)

SAMPLE OUTPUT:

Enter the number of books purchased2

Enter the unit price of the book10

Enter the no.of.quantities2

The total price is 1.0

EXPT. NO.2.K SIMPLE INTEREST CALCULATION

AIM:

To write a program to calculate the simple interest calculation

CODE:

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

n=int (input("Enter the number of years or months"))

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

simple\_interest=(p\*n\*r)/100

print("The simple interest is",simple\_interest)

SAMPLE OUTPUT:

Enter the principal amount10000

Enter the number of years or months12

Enter the rate of interest1000

The simple interest is 1200000.0