1. Write a Python program to calculate the area of a rectangle using user input for length and width.

Sol :

length = float(input("Enter the length of the rectangle: "))#10 width = float(input("Enter the width of the rectangle: "))#20 area = length \* width#10\*20 - 200

print(“the area of rectangle is :“,area)#2

1. Write a Python program to find the maximum of three numbers using conditional statements.

Sol :

n1=int(input("enter the number :")) # 1 n2=int(input("enter the number :")) # 2 n3=int(input("enter the number :")) # 3

if n1>n2 and n1>n3 :

print('the maximum number is ', n1) #false elif n2>n3 : #false

print('the maximum number is ', n2) else: #true

print('the maximum number is ', n3)

1. Write a Python program to swap the values of two variables without using a temporary variable.

Sol :

a=1 b=2

Print(“before the swapping :”, a,b) a=a+b

b=a-b a=a-b

Print(“after the swapping :”, a,b)

1. Write a Python program to count the number of vowels in a given string. Sol :

String=input(‘enter a string :’) Vowels = [a,e,i,o,u,A,E,I,O,U] Cnt=0

For char in String : If chr in Vowel:

Cnt+=1

Print(“number of vowels in the given string :”, Cnt)

1. Write a Python program to check if a given number is prime or not.

Sol :





1. Write a Python program to generate the Fibonacci sequence up to a certain number of terms.

Sol :

num=int(input(‘enter a number :’)) a,b=0,1

print(a,b end=’’) i=1

While i<=n-2: z=x+y

print(z, end=’’) x=y

y=z i+=1

10.Write a Python program to find the intersection of two lists. Sol :



13.Write a Python program to reverse a given string. Sol :

Str = input("Enter a string: ") Reverse = Str[::-1] print("Reversed string:", Reverse)

1. Write a Python program to remove the last element from a list. Sol :



1. Write a Python program to check if a given string is a palindrome. Sol :

str = input(‘enter a string’) if str == str[ : : -1]:

print(‘given str is a pallendrom’) else:

print(‘given str is not a pallendrom’)

1. Write a Python program to find the difference between two sets Sol :



1. Arithmetic Operators
   1. Create two variables a and b with numeric values.
   2. Calculate the sum, difference, product, and quotient of a and b.
   3. Print the results.

Sol :

a = int(input("Enter the first number : ")) #4

b = int(input("Enter the second number : "))#2 sum = a + b # Addition

difference = a - b # Subtraction product = a \* b # Multiplication quotient = a / b # Division

print(“ the sum of two numbers is :”,sum)#6

print(" the difference of two numbers is", difference)#2 print(" the product of two numbers is", product)#8 print(" the division of two numbers is", quotient)#2.0

1. Comparison Operators
   1. Compare the values of a and b using the following comparison operators: <, >, <=, >=, ==, and !=.
   2. Print the results of each comparison.

Sol :



1. Logical Operators.
   1. Create two boolean variables, x and y.
   2. Use logical operators (and, or, not) to perform various logical operations on x and y.
   3. Print the results.

Sol :

1=true , 0= false x=1

y=0

Print(x & y) # false Print(x | y) # true

Print(not x) # false Print(not y) # false

1. Assignment Operators
   1. Create a variable total and initialize it to 10.
   2. Use assignment operators (+=, -=, \*=, /=) to update the value of total.
   3. Print the final value of total.

Totale = 10 Addition :

Totale +=5 Print(totale ) - 15 Subtraction :

Totale -=5

Print(totale) - 10 Multiplication :

Totale \*=5 Print(totale) - 50 Division

Total /=5 Print(total) - 2.0 Floor division :

Total //=5 Print(total) - 2

1. Identity and Membership Operators Identity and Membership Operators
   1. Create a list my\_list containing a few elements.
   2. Use identity operators (is and is not) to check if two variables are the same object.
   3. Use membership operators (in and not in) to check if an element is present in my\_list.
   4. Print the results.

Sol :

My\_list = [0,1,2,3,4,5,6]

New\_list = My\_list Print(My\_list is New\_list) # True

Print(My\_list is not New\_list) # False My\_list = [0,1,2,3,4,5,6]

A= 5 in My\_list B=5 not in My\_list Print(A) #True Print(B) False#