**Python Programs**

1. Write a python program to get a string. And Make a list of first 2 & last 2 char from the given string if the string length is less than 2 it return an empty string.

a = "sravya"  
print(a[0:2], a[-2:])  
  
def string\_ex(sravya):  
 if len(sravya)< 2:  
 return ' '  
 return str[0 : 2] + str[-2:]  
print(string\_ex('sravya'))  
print(string\_ex('t'))

Output: sr ya

First values : sr

Last values : ya

1. Write a python program to sum all the items in a list

l=[1,2,3,4]  
print(sum(l))  
def sum\_list(element):  
 sum\_number=0  
 for i in element:  
 sum\_number +=i  
 return sum\_number  
 print(sum\_list([1,2,3,4]))

Output: 10

1. Write a program and check it is an Armstrong or Not.

num=input('enter number:')  
sum=0  
for i in num:  
 sum += int(i)\*\*3  
if sum == int(num):  
 print('Armstrong')  
else:  
 print('not armstrong')

Enter number: 153

Output:

Armstrong

num=input('enter number:')  
sum=0  
for i in num:  
 sum += int(i)\*\*3  
if sum == int(num):  
 print('Armstrong')  
else:  
 print('not armstrong')

Enter number: 136

Output:

Not Armstrong

1. Print N natural numbers

num=30  
value=0  
for i in range (1, num + 1):  
 value = value + i  
print("sum of n natural numbers:",value)

Output: 465

1. Write swapping two numbers program

a=5  
b=10  
print('original values:')  
print('a: ', a)  
print('b: ', b)  
a,b = b,a  
print('\n values after swapping:')  
print('a= ', a)  
print('b= ', b)

Output:

Original values

a=5

b=10

After swapping values

a=10

b=5

1. Write a program it is even (or) odd number

a=1  
while a<6:  
 if a % 2 == 0:  
 print("a is an even")  
 else:  
 print("a is an odd")  
 a += 1

Output:

a is an odd

a is an even

a is an odd

a is an even

a is an odd

1. Write a program it is prime number or not a prime number

num=int(input('enter a value:'))  
count=0  
for i in range(1, num+1):  
 if num % i == 0:  
 count = count + 1  
if count == 2:  
 print(num,'it is prime')  
  
else:  
 print(num,'it is not prime')

Enter value: 5

Output:

5 is prime number

Enter value: 8

Output:

8 is not a prime number

1. Write a factorial program.

num=int(input('enter a value:'))  
fact = 1  
for i in range (1, num + 1):  
 fact = fact\*i  
print(fact)

Output:

Enter value: 4

24

1. Write a pattern program

n=20  
for i in range(n):  
 for j in range(i):  
 print("+", end = " ")  
 print( )

Output:

+

+ +

+ + +

+ + + +

+ + + + +

+ + + + + +

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1. Write a program Greatest number in 3 number

a=5  
b= 8  
c=13  
if a > b and a > c:  
 print(a, 'is greater')  
  
elif b > c:  
 print(b, 'is greater')  
  
else:  
 print(c, 'is greater')

Output:

13 is greater

1. Write a program on array

arr=[4,5,7,8,9]  
print(sum(arr))  
  
print(sum(arr,7)) #adding a number

print(sum(arr,-4)) #removing a number

Output:

33

40

29

1. Write a program on length of given list

mylist=[5,6,7,8,9]  
print(mylist)  
count=0  
for i in mylist:  
 count=count+1  
print("length of list is:", count)

Output:

[5, 6, 7, 8, 9]

length of list is: 5

1. Write a program on search elements in a list

mylist=[2,4,5,7,9]

num=3

if num in mylist:  
 print("is present in my list")

else:  
 print("is not present in my list")

Output:

3 is present in my list

1. Write a perfect number or not program

n=7  
sum=0  
for i in range(1,n):  
 if n % i == 0:  
 sum = sum+i  
if sum == n:  
 print('n is a perfect number')

else:  
 print('n is not a perfect number')

Output:

7 is not a prefect number

n=6  
sum=0  
for i in range(1,n):  
 if n % i == 0:  
 sum = sum+i  
if sum == n:  
 print('n is a perfect number')

else:  
 print('n is not a perfect number')

Output:

6 is a prefect number

1. Write a program whether it is palindrome or not

str="sravya"  
if str == str[::-1]:  
 print('string is a palindrome')  
else:  
 print('string is not a palindrome')

Output:

string is not a palindrome

str="mom"  
if str == str[::-1]:  
 print('string is a palindrome')  
else:  
 print('string is not a palindrome')

Output:

string is a palindrome

str="dad"  
if str == str[::-1]:  
 print('string is a palindrome')  
else:  
 print('string is not a palindrome')

Output:

string is a palindrome

num=123  
if num == num[::-1]:  
 print('num is a palindrome')  
else:  
 print('num is not a palindrome')

Output:

num is not a palindrome

1. To print Fibonacci series in python

num=20  
print('fibonacci series :')  
num1 = 0  
num2 = 1  
count = 0  
print(num1,end='')  
print(num2,end='')  
while count < num:  
 result = num1 + num2  
 print(result,end='')  
 num1=num2  
 num2=result  
 count=count+1

Output:

01123581321345589144233377610987159725844181676510946

1. Write a Area of a circle program

import math  
radius=float(input("Enter radius of the circle:"))  
area=math.pi\*radius\*\*2  
print(f"The area of the circle is:{area}")

Output:

Enter radius of the circle:47

The area of the circle is:6939.778171779853

1. Write a program on simple interest.

P=float(input("Enter the principal amount:"))  
R=float(input("Enter the rate of interest per year:"))  
T=float(input("Enter time period in year:"))  
SI = (P \* R \* T) / 100  
print(f"The simple interest is:{SI}")

Output:

Enter the principal amount:40000

Enter the rate of interest per year:2026

Enter time period in year:15

The simple interest is:12156000.0

1. Write a program on recursion

def factorial(n):  
 if n == 0 or n == 1:  
 return 1  
 else:  
 return n \* factorial(n-1)  
result = factorial(8)  
print("factorial of 8:", result)

Output:

factorial of 8: 40320

1. Write a program on sorting

a=[2,4,9,14,27,58]  
a.sort( )  
print("ascending order:", a)  
a.sort(reverse = True)  
print("descending order:", a)

Output:

ascending order: [2, 4, 9, 14, 27, 58]

descending order: [58, 27, 14, 9, 4, 2]