**Write a Python program to check if the square of a number is prime or not.**

a = int(input("Enter a number: "))  
num = a\*a  
if num > 1:  
 for i in range(2,num):  
 if (num % i) == 0:  
 print(num,"is not a prime number")  
 print(i,"times",num//i,"is",num)  
 break  
 else:  
 print(num,"is a prime number")  
else:  
 print(num,"is not a prime number")

**Write a Python program to print the following series:**

**a) 1,4,7,10….n terms**

**b) 1,-4,7,-10,…,n terms**

n = int(input('Enter number: '))  
number = 1  
print(number)  
while number < n:  
 number = number + 3  
 print(number)

for i in range(1,43,3):  
 if(i%2==0):  
 print(-i)  
 else:  
 print(i)

**Write a Python program to read the three sides of a triangle and print whether the triangle is equilateral, isosceles or scalene.**

print("Input lengths of the triangle sides: ")  
x = int(input("x: "))  
y = int(input("y: "))  
z = int(input("z: "))  
  
if x == y == z:  
 print("Equilateral triangle")  
elif x==y or y==z or z==x:  
 print("isosceles triangle")  
else:  
 print("Scalene triangle")

**Write a  Python program to print the second largest number from 3 numbers entered by the user.**

a=[]  
n=int(input("Enter number of elements:"))  
for i in range(1,n+1):  
 b=int(input("Enter element:"))  
 a.append(b)  
a.sort()  
print("Second largest element is:",a[n-2])

**Write a Python program to print the sum of the following sequence:**

**0,1,1,2,3,5,8,….. (n terms) [ Fibonacci Sequence]**

nterms = int(input("How many terms? "))  
  
n1, n2 = 0, 1  
count = 0  
if nterms <= 0:  
 print("Please enter a positive integer")  
elif nterms == 1:  
 print("Fibonacci sequence upto",nterms,":")  
 print(n1)  
else:  
 print("Fibonacci sequence:")  
 while count < nterms:  
 print(n1)  
 nth = n1 + n2  
 # update values  
 n1 = n2  
 n2 = nth  
 count += 1

**Write a Python program to compute the factorial of a number.**

num = int(input("Enter a number: "))  
factorial = 1  
  
if num < 0:  
 print("Sorry, factorial does not exist for negative numbers")  
elif num == 0:  
 print("The factorial of 0 is 1")  
else:  
 for i in range(1,num + 1):  
 factorial = factorial\*i  
 print("The factorial of",num,"is",factorial)

**Write a Python program to check if a number is an Armstrong number or not.**

num = int(input("Enter a number: "))  
sum = 0  
temp = num  
while temp > 0:  
 digit = temp % 10  
 sum += digit \*\* 3  
 temp //= 10  
if num == sum:  
 print(num,"is an Armstrong number")  
else:  
 print(num,"is not an Armstrong number")

**Write a Python program to print the following pattern:**

**Example: n=3**

**\***

**\*  \***

**\*  \*  \***

**\*  \***

**\***

print("Program to print start pattern: \n");  
rows = input("Enter max star to be display on single line")  
rows = int (rows)  
for i in range (0, rows):  
 for j in range(0, i + 1):  
 print("\*", end=' ')  
 print("\r")  
for i in range (rows, 0, -1):  
 for j in range(0, i -1):  
 print("\*", end=' ')  
 print("\r")