Python program that prints Hello, world!

```
print("Hello, World!")
```

```
Hello, World!
```

This program adds two numbers

```
x = 10
y = 20
print("Sum is:",x+y)
```

```
Sum is: 30
```

Python Program to calculate the square root

```
import math
num = int(input())
sqr = math.sqrt(num)
print("Square root of ",num,"=",sqr)
```

```
4
Square root of  4 = 2.0
```

Python Program to find the area of triangle

```
s1 = float(input("Enter length of side 1:"))
s2 = float(input("Enter length of side 2:"))
s3 = float(input("Enter length of side 3:"))
s = (s1+s2+s3)/2 #semi-perimeter
area = (s*(s-s1)*(s-s2)*(s-s3))**0.5
print('The area of the triangle is %0.2f' %area)
```

```
Enter length of side 1:4
Enter length of side 2:4
Enter length of side 3:4
The area of the triangle is 6.93
```

Solve the quadratic equation ax**2 + bx + c = 0

```
import cmath
a = int(input("Enter value of a:"))
b = int(input("Enter value of b:"))
c = int(input("Enter value of c:"))
det = ((b**2)-(4*a*c))
sol1 = (-b+cmath.sqrt(det))/(2*a)
sol2 = (-b-cmath.sqrt(det))/(2*a)
print('The solution are {0} and {1}'.format(sol1,sol2))
```

```
Enter value of a:1
Enter value of b:5
Enter value of c:6
The solution are (-2+0j) and (-3+0j)
```

Python program to swap two variables

```
a = 1
b = 3
print("a: ",a,"b: ",b)
temp = a
a=b
b=temp
print("a: ",a,"b: ",b)
```

```
a:  1 b:  3
a:  3 b:  1
```

Program to generate a random number between 0 and 9

```
import random
print("random num is: ",random.randint(0,9))
```

```
random num is:  7
```

Python program that Takes kilometers input from the user and convert to miles

```
k = float(input('Enter distance in KM: '))
miles = k * 0.61
print('%0.2f kilometers is equal to %0.2f miles' %(k,miles))
```

```
Enter distance in KM: 5.5
5.50 kilometers is equal to 3.35 miles
```

Python Program to convert temperature in celsius to fahrenheit

```
temp = int(input("Enter temperature in Celsius:"))
fahr = temp*(9/5)+32
print('{0} is temperature in Fahrenheit'.format(fahr))
```

```
Enter temperature in Celsius:100
212.0 is temperature in Fahrenheit
```

Python program to check if the input number is odd or even.

```
x = int(input('Enter number: '))
if(x>=0):
  if(x%2==0):
    print('Number is Even')
  else:
    print('Number is Odd')
else:
  print('Enter valid Non-Negative Number')
```

```
Enter number: 5
Number is Odd
```

Python program to check if year is a leap year or not

```
year = int(input("Enter year: "))
if((year%400 == 0)and(year%100 == 0)):
  print("This is a Leap Year")
elif((year%4==0) and (year%100!=0)):
  print("This is a Leap Year")
else:
  print("Not a Leap Year")
```

```
Enter year: 2000
This is a Leap Year
```

Python program to find the largest number among the three input numbers

```
a=1
b=11
c=10
max = a
if(b>=max and b>=c):
  max = b
elif(c>=max and c>=b):
  max = c
print(max)
```

```
11
```

Program to check if a number is prime or not

```
num = int(input('Enter Number: '))
status = False
for i in range(2,int(num/2)+1):
  if(num%i==0):
    status = True
if(status!=True):
  print('Number is prime')
else:
  print("Number isn't prime")
```

```
Enter Number: 37
Number is prime
```

Python program to display all the prime numbers within an interval

```
lower_limit = int(input("Enter Lower Limit:"))
Upper_limit = int(input("Enter Upper Limit:"))
for i in range(lower_limit,Upper_limit):
  status = False
  if(i>1):
    for j in range(2,int(i/2)+1):
      if(i%j==0):
        status = True
    if(status==False):
      print(i)
```

```
Enter Lower Limit:1
Enter Upper Limit:10
2
3
5
7
```

Python program to find the factorial of a number provided by the user.

```
def factorial(num):
  if num == 0:
    return 1
  else:
    return num*factorial(num-1)
num = int(input("Enter Number: "))
if num<=0:
  print("Enter non-negative number")
else:
  print("Factorial is",factorial(num))
```

```
Enter Number: 10
Factorial is 3628800
```

Python Program to display the Multiplication table (from 1 to 10)

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


for i in range(1, 11):
   print(num, 'x', i, '=', num*i)
```

```
Enter number: 11
11 x 1 = 11
11 x 2 = 22
11 x 3 = 33
11 x 4 = 44
11 x 5 = 55
11 x 6 = 66
11 x 7 = 77
11 x 8 = 88
11 x 9 = 99
11 x 10 = 110
```

Program to display the Fibonacci sequence up to n-th term

```
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
       n1 = n2
       n2 = nth
       count += 1
```

```
How many terms? 7
Fibonacci sequence:
0
1
1
2
3
5
8
```

Python program to check if the number is an Armstrong number or not

```
num = int(input("Enter number: "))
temp = num
length = len(str(num))
print(length)
sum = 0
while(num>0):
  digit = num%10
  sum += digit**length
  num //=10
print(sum)
if sum==temp:
  print("Armstrong number found!")
else:
  print("Armstrong number not found!")
```

```
Enter number: 1634
4
1634
Armstrong number found!
```

Program to check Armstrong numbers in a certain interval

```
lower = 100
upper = 2000

for num in range(lower, upper + 1):

   # order of number
   order = len(str(num))

   # initialize sum
   sum = 0

   temp = num
   while temp > 0:
       digit = temp % 10
       sum += digit ** order
       temp //= 10

   if num == sum:
       print(num)
```

Python Program to print the Sum of natural numbers up to num

```
num = int(input("Enter number: "))
sum = 0
for i in range(num+1):
  sum = sum +i
print(sum)
```

```
Enter number: 10
55
```

Python Program to display the powers of 2 using anonymous function

---

```
terms = 10
result = list(map(lambda x: 2 ** x, range(terms)))

print("The total terms are:",terms)
for i in range(terms):
   print("2 raised to power",i,"is",result[i])
```

Python Program to take a list of numbers

```
n = int(input("Enter number of elements"))
a = []
for i in range(n):
  num = int(input("Enter number: "))
  a.append(num)
for i in range(n):
  print(a[i])
```

```
Enter number of elements3
Enter number: 1
Enter number: 2
Enter number: 3
1
2
3
```

Python program to convert decimal into other number systems

```
dec = 69

print("The decimal value of", dec, "is:")
print(bin(dec), "in binary.")
print(oct(dec), "in octal.")
print(hex(dec), "in hexadecimal.")
```

```
The decimal value of 69 is:
0b1000101 in binary.
0o105 in octal.
0x45 in hexadecimal.
```

Program to find the ASCII value of the given character

```
ch = str(input("Enter Charecter"))
print(ord(ch))
```

```
Enter Charecterp
112
```