Write a Python program to print "Hello, World!".

In [36]:

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

```
Hello, World!
```

Write a Python program to add two numbers.

In [37]:

```
a,b = 2,3
print("Addition of two numbers is: ", a + b)
```

```
Addition of two numbers is:  5
```

Write a Python program to find the largest of two numbers.

In [38]:

```
a,b = 2,3
print("Largest of two numbers is: ", max(a,b))
```

```
Largest of two numbers is:  3
```

In [41]:

```
## alternative solution
a,b = 2,3

if a > b:
    print("Largest of two number is: ", a)
else:
    print("Largest of two number is: ", b)
```

```
Largest of two number is:  3
```

Write a Python program to find the smallest of two numbers.

In [42]:

```
a,b = 2,3
print("Largest of two numbers is: ", min(a,b))
```

```
Largest of two numbers is:  2
```

In [43]:

```
## alternative solution
a,b = 2,3

if a < b:
    print("Smallest of two number is: ", a)
else:
    print("Smallest of two number is: ", b)
```

```
Smallest of two number is:  2
```

Write a Python program to find the sum of all numbers from 1 to n, where n is a user input. ¶

In [44]:

```
n = int(input("Enter a number: "))
s = 0  # store sum of values
for i in range(1, n+1):
    s += i
print("Sum of all numbers from 1 to", n, " is ", s)
```

```
Enter a number: 2
Sum of all numbers from 1 to 2  is  3
```

Write a Python program to find the product of all numbers from 1 to n, where n is a user input.

In [12]:

```
n = int(input("Enter a number: "))
p = 1  # store product of values
for i in range(1, n+1):
    p *= i
print("Sum of all numbers from 1 to", n, " is ", p)
```

```
Enter a number: 2
Sum of all numbers from 1 to 2  is  2
```

Write a Python program to check if a number is even or odd, where the number is a user input.

In [13]:

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

if n%2 == 0:
    print("Even Number")
else:
    print("Odd Number")
```

```
Enter a number: 12
Even Number
```

Write a Python program to check if a number is positive, negative, or zero, where the number is a user input.

In [15]:

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

if n > 0:
    print("Positive Number")
elif n == 0:
    print("Zero")
else:
    print("Negative Number")
```

```
Enter a number: -3
Negative Number
```

Write a Python program to calculate the area of a circle, where the radius is a user input.

In [22]:

```
r = float(input("Enter a radius (in cm): "))
PI = 3.14
print("Area of a circle is: ", PI*r**2, " cm^2")
```

```
Enter a radius (in cm): 12
Area of a circle is:  452.16  cm^2
```

In [24]:

```
import math
r = float(input("Enter a radius (in cm): "))
print("Area of a circle is: ", round(math.pi*math.pow(r,2),2), "
```

```
Enter a radius (in cm): 12
Area of a circle is:  452.39  cm^2
```

Write a Python program to find the roots of a quadratic equation, where the coefficients are user inputs.

In [28]:

```
import math
a = float(input("Enter a coefficient of x^2: "))
b = float(input("Enter a coefficient of x: "))
c = float(input("Enter a coefficient of constant term: "))

D = b**2 - 4*a*c  # Discriminant

if D > 0:
    root1 = (-b +  math.sqrt(D))/(2*a)
    root2 = (-b - math.sqrt(D))/(2*a)
    print("Roots of a quadratic equation is: ", root1 , " and ",
elif D == 0:
    root1 = root2 = -b/(2*a)
    print("Roots of a quadratic equation are equal: ", root1)
else:
    print("Imaginary Roots")

```

```
Enter a coefficient of x^2: 1
Enter a coefficient of x: 5
Enter a coefficient of constant term: 6
Roots of a quadratic equation is:  -2.0  and  -3.0
```

Write a Python program to find the equation of a quadratic equation, where the roots are user inputs.

In [35]:

```
root1 = float(input("Enter a first root: "))
root2 = float(input("Enter a second root: "))

s = root1 + root2
p = root1*root2
print("Required QE is: x^2 +", (-1)*s, "x + ",p)
```

```
Enter a first root: -2
Enter a second root: -3
Required QE is: x^2 + 5.0 x +  6.0
```