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In [4]: print("Hello KIIT")
```

```
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```

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In [15]: # Use mathematical operators  
a = 20  
b = 15  
print("Sum = ", a + b)  
print("Difference = ", a - b)  
print("Product = ", a * b)  
print("Division = ", a / b)  
print("Integer division = ", a // b)  
print("Remainder: ", a % b)
```

```
Sum = 35  
Difference = 5  
Product = 300  
Division = 1.3333333333333333  
Integer division = 1  
Remainder: 5
```

```
In [12]: # Take input from user

# Integer and Float
a = int(input("Enter a number: "))
b = float(input("Enter a floating point number: "))
print("Sum = ", a + b)
print("Difference = ", a - b)
print("Product = ", a * b)
print("Division = ", a / b)

# Using boolean
check = a == b
print("\nEquality check: ", check)

# String input
string = input("\nEnter a string: ")
print("The string is: ", string);
```

```
Enter a number: 5
Enter a floating point number: 5
Sum = 10.0
Difference = 0.0
Product = 25.0
Division = 1.0
```

```
Equality check: True
```

```
Enter a string: hello
The string is: hello
```

```
In [1]: # Area and Perimeter of Shapes

import math

# Circle
r = eval(input("Enter radius of circle: "))
area = math.pi * (r ** 2)
perimeter = 2 * math.pi * r
print("Area: ", area, ", Perimeter: ", perimeter)

# Rectangle
l = eval(input("\nEnter length of rectangle: "))
b = eval(input("Enter breadth of rectangle: "))
area = l * b
perimeter = 2 * (l + b)
print("Area: ", area, ", Perimeter: ", perimeter)

# Triangle
a = eval(input("\nEnter 1st side of triangle: "))
b = eval(input("Enter 2nd side of triangle: "))
c = eval(input("Enter 3rd side of triangle: "))
perimeter = a + b + c
s = perimeter / 2
area = (s * (s - a) * (s - b) * (s - c)) ** 0.5
print("Area: ", area, ", Perimeter: ", perimeter)

# Sphere
r = eval(input("\nEnter radius of sphere: "))
surfaceArea = 4 * math.pi * (r ** 2)
volume = (4 / 3) * math.pi * (r ** 3)
print("Surface Area: ", surfaceArea, ", Volume: ", volume)

# Cone
r = eval(input("\nEnter radius of cone: "))
h = eval(input("Enter height of cone: "))
surfaceArea = math.pi * r * r + math.pi * r * h
volume = math.pi * r * r * h / 3
print("Surface Area: ", surfaceArea, ", Volume: ", volume)
```

```
Enter radius of circle: 5
Area: 78.53981633974483 , Perimeter: 31.41592653589793

Enter length of rectangle: 4
Enter breadth of rectangle: 5
Area: 20 , Perimeter: 18

Enter 1st side of triangle: 3
Enter 2nd side of triangle: 4
Enter 3rd side of triangle: 5
Area: 6.0 , Perimeter: 12

Enter radius of sphere: 6
Surface Area: 452.3893421169302 , Volume: 904.7786842338603

Enter radius of cone: 4
Enter height of cone: 8
Surface Area: 150.79644737231007 , Volume: 134.0412865531645
```

```
In [22]: # Check odd or even
num = int(input("Enter a number: "))
print("Odd Number") if num % 2 != 0 else print("Even Number")

Enter a number: 5
Odd Number
```

```
In [17]: # Area and Perimeter of circle using function
import math
def area(radius):
    return math.pi * radius * radius

def perimeter(radius):
    return 2 * math.pi * radius

r = eval(input("Enter radius of circle: "))
print("Area: ", area(r), ", Perimeter: ", perimeter(r))

Enter radius of circle: 5
Area: 78.53981633974483 , Perimeter: 31.41592653589793
```

```
In [55]: # Check for prime
def checkPrime(num):
    if (num == 2):
        return True
    if (num <= 1):
        return False
    for i in range(2, (int) (num ** 0.5 + 1)):
        if num % i == 0:
            return False
    return True

# Check for palindrome
def checkPalindrome(num):
    return True if str(num) == str(num)[::-1] else False

# Check for perfect numbers
def checkPerfect(num):
    if num < 6:
        return True
    sum = 0
    for i in range(1, (int) (num / 2 + 1)):
        if num % i == 0:
            sum += i
    return sum == num

# Check for armstrong number
def checkArmstrong(num):
    sum = 0
    temp = num
    while temp > 0:
        digit = temp % 10
        sum += digit ** 3
        temp //= 10
    return sum == num

num = int(input("Enter a number: "))
print("Prime") if checkPrime(num) else print("Not Prime")
print("Palindrome") if checkPalindrome(num) else print("Not Palindrome")
print("Perfect") if checkPerfect(num) else print("Not Perfect")
```

```
print("Armstrong") if checkArmstrong(num) else print("Not Armstrong")
```

Enter a number: 153

Not Prime

Not Palindrome

Not Perfect

Armstrong