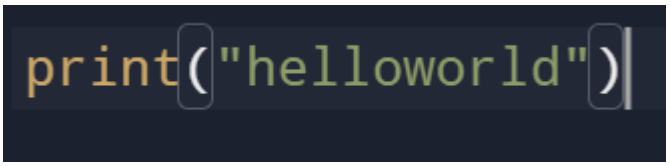
1. **Print helloworld**



2. **Describe local variable and global variable code**

A local variable is declared inside a function, which has limited scope to function only.

A Global variable is declared outside of all functions and can be modified globally throughout the program.

```
x= 10   #Global Variable
def check():
    x=5    #Local Variable
    print("The local value of x:", x)

check()
print("The global value of x:", x)
```

```
The local value of x: 5
The global value of x: 10

=== Code Execution Successf
```

3. **Write a code that describe Indentation error**

An IndentationError occurs when the spaces used for indentation are inconsistent or missing.

```
def check():
x=5    #Indentation Error
print("The local value of x:", x)
check()
```

```
ERROR!
Traceback (most recent call last):
  File "<main.py>", line 3
    x=5    #Local Variable
    ^
IndentationError: expected an indented block after
   function definition on line 2
```

4. **Write a code that describe local and global variable with same name**

```
x= 10   #Global Variable
def check():
    x=5    #Local Variable
    print("The local value of x:", x)

check()
print("The global value of x:", x)
```

```
The local value of x: 5
The global value of x: 10

=== Code Execution Successf
```

5. Write a code for string, int and float input.

```
x=5
y= "Rishika"
z= 5.6
print(type(x))
print(type(y))
print(type(z))
```

```
<class 'int'>
<class 'str'>
<class 'float'>

=== Code Execution
```

6. Write a program for arithmetic operators

```
a=5
b=10
c=12
# arithmetic operators
print("a+b+c = ", a+b+c)
print("a*b*c = ", a*b*c)
print("b/a = ", b/a)
print("a with power of 2 = ", a**2)
print("c%a = ", c%a)
print("c//a = ", c//a)
print("b-a = ", b-a)
```

```
a+b+c =  27
a*b*c =  600
b/a =  2.0
a with power of 2 =  25
c%a =  2
c//a =  2
b-a =  5

=== Code Execution Succes
```

7. Write a program for assignment operators

```
x = 5  # Assign
y=10
z=16
w=20
t=3

x += 3 # Add and assign
print("Add and assign:", x)
y -= 2 # Subtract and assign
print("Subtract and assign:", y)
z *= 4 # Multiply and assign
print("Multiply and assign:", z)
w /= 2 # Divide and assign
print("Divide and assign:", w)
t %= 3 # Modulus and assign
print("Modulus and assign:", t)
```

```
Add and assign: 8
Subtract and assign: 8
Multiply and assign: 64
Divide and assign: 10.0
Modulus and assign: 0

=== Code Execution Successful ==
```

8. Write a program for Bitwise operators

```
a = 4  # Binary value of 4 is: 0100
b = 5  # Binary value of 5 is: 0101
print("Bitwise AND:", a & b)
print("Bitwise OR:", a | b)
print("Bitwise XOR:", a ^ b)
print("Bitwise NOT:", ~a)
print("Left Shift:", a << 1)
print("Right Shift:", a >> 1)
```

```
Bitwise AND: 4
Bitwise OR: 5
Bitwise XOR: 1
Bitwise NOT: -5
Left Shift: 8
Right Shift: 2

=== Code Execution S
```

9. Write a program to calculate greatest of three numbers.

```
a = int(input("Enter 1st number "))
b = int(input("Enter 2nd number "))
c = int(input("Enter 3rd number "))
print("The Numbers are: ",a,b,c)
print("Finding the greatest of these numbers")
if(a>b and a>c):
    print(a," is greatest")
if(b>a and b>c):
    print(b," is greatest")
else:
    print(c," is greatest")
```

```
Enter 1st number 1
Enter 2nd number 2
Enter 3rd number 3
The Numbers are:  1 2 3
Finding the greatest of these numbers
3  is greatest

=== Code Execution Successful ===
```

10. Calculate the area of a circle.

```
a = int(input("Enter the radius of circle "))
print("The radius of circle is: ",a)
print("Finding the area of circle")
print("The area of circle is: ", 3.14*a*a)
```

```
Enter the radius of circle 5
The radius of circle is:  5
Finding the area of circle
The area of circle is:  78.5
```

11. Calculate the area of a triangle.

```
l = int(input("Enter the length of triangle "))
b = int(input("Enter the breadth of triangle "))
print("The length of triangle is: ",l)
print("The breadth of triangle is: ",b)
print("Finding the area of triangle")
print("The area of triangle is: ", 0.5*l*b)
```

```
Enter the length of triangle 2
Enter the breadth of triangle 5
The length of triangle is:  2
The breadth of triangle is:  5
Finding the area of triangle
The area of triangle is:  5.0
```

12. Calculate the area of a rectangle.

```
l = int(input("Enter the length of rectangle "))
b = int(input("Enter the breadth of rectangle "))
print("The length of rectangle is: ",l)
print("The breadth of rectangle is: ",b)
print("Finding the area of rectangle")
print("The area of rectangle is: ", l*b)
```

```
Enter the length of rectangle 5
Enter the breadth of rectangle 9
The length of rectangle is:  5
The breadth of rectangle is:  9
Finding the area of rectangle
The area of rectangle is:  45
```

13. Calculate the area of a square.

```
l = int(input("Enter the side of square "))
print("The side of square is: ",l)
print("Finding the area of square")
print("The area of square is: ", l**2)
```

```
Enter the side of square 5
The side of square is:  5
Finding the area of square
The area of square is:  25
```

14. Write a program to accept a number and display its square and cube.

```
l = int(input("Enter the number: "))
print("The number entered is: ",l)
print("The square is: ", l**2)
print("The cube is: ", l**3)
```

```
Enter the number: 5
The number entered is:  5
The square is:  25
The cube is:  125
```

15. write a program to accept 5 float values and display its sum and average.

```
numbers = []

for i in range(5):
    num = float(input(f"Enter number {i+1}: "))
    numbers.append(num)

total = sum(numbers)
average = total / len(numbers)

print("Sum:", total)
print("Average:", average)
```

```
Enter number 1: 9
Enter number 2: 10
Enter number 3: 2
Enter number 4: 1
Enter number 5: 0
Sum: 22.0
Average: 4.4

=== Code Execution Succ
```

16. write a program to calculate the area of rectangle.

```
l = int(input("Enter the length of rectangle "))
b = int(input("Enter the breadth of rectangle "))
print("The length of rectangle is: ",l)
print("The breadth of rectangle is: ",b)
print("Finding the area of rectangle")
print("The area of rectangle is: ", l*b)
```

```
Enter the length of rectangle 5
Enter the breadth of rectangle 9
The length of rectangle is:  5
The breadth of rectangle is:  9
Finding the area of rectangle
The area of rectangle is:  45
```

17. Write a Python program that takes a number as input and prints "Even" if the number is even and "Odd" if it's odd.

```
a= int(input("Enter the number: "))
if(a%2 == 0):
    print(f'{a} is a even number' )
else:
    print(f'{a} is a odd number' )
```

```
Enter the number: 5
5 is a odd number

=== Code Execution Suc
```

18. Create a Python program that checks whether a person is eligible to vote (18 years or older) based on their age.

```
a= int(input("Enter your age: "))
if(a >=18):
    print("You are eligible to vote")
else:
    print("You not are eligible to vote")
```

```
Enter your age: 17
You not are eligible to vote

=== Code Execution Successful
```

19. Write a program to find the largest of 2 numbers.

```
a= int(input("Enter first number"))
b= int(input("Enter second number"))
if(a > b):
    print(f'{a} is greater than {b}')
elif(a == b):
    print(f'{a} is equal to {b}')
else:
    print(f'{b} is greater than {a}')
```

```
Enter first number5
Enter second number6
6 is greater than 5

=== Code Execution Suc
```

20. Create a Python program that checks if a user-given number is positive, negative, or zero.

```python
a= int(input("Enter first number"))
if(a > 0):
    print(f'{a} is positive number')
elif(a == 0):
    print(f'{a} is zero')
else:
    print(f'{a} is negative number')
```

```
Enter first number-5
-5 is negative number

=== Code Execution Suc
```

21. Write a Python program that determines the largest of three numbers entered by the user using nested if syntax.

```python
a= int(input("Enter first number"))
b= int(input("Enter second number"))
c= int(input("Enter third number"))
if(a > b):
    if(a>c):
        largest = a
    else:
        larget = c
elif(b > a):
    if(b>c):
        largest = b
    else:
        larget = c
print(f'{largest} is greatest number')
```

```
Enter first number10
Enter second number15
Enter third number8
15 is greatest number

=== Code Execution Succe
```

22. Write a program to accept an operator symbol(+,-,*,/,%) and two numbers and perform the arithmetic operations.

```python
op= (input("Enter the operator from +,-,*,/ or %"))
num1= float(input("Enter first number"))
num2= float(input("Enter second number"))
if op == "+":
    result = num1 + num2
    print(f"The result of {num1} + {num2} is: {result}")
elif op == "-":
    result = num1 - num2
    print(f"The result of {num1} - {num2} is: {result}")
elif op == "*":
    result = num1 * num2
    print(f"The result of {num1} * {num2} is: {result}")
elif op == "/":
    if num2 != 0:
        result = num1 / num2
        print(f"The result of {num1} / {num2} is: {result}")
    else:
        print("Division by zero is not possible.")
elif op == "%":
    if num2 != 0:
        result = num1 % num2
        print(f"The result of {num1} % {num2} is: {result}")
    else:
        print("Modulus by zero is not allowed.")
else:
    print("Invalid operator. Please enter one of +, -, *, /, or %.")
```

```
Enter the operator from +,-,*,/ or %%
Enter first number12
Enter second number2
The result of 12.0 % 2.0 is: 0.0

=== Code Execution Successful ===
```

23. Write a menu driven program to calculate the are of different shapes.

```python
def rectangle_area():
    length = float(input("Enter the length of the rectangle: "))
    breadth = float(input("Enter the breadth of the rectangle: "))
    return length * breadth

def circle_area():
    radius = float(input("Enter the radius of the circle: "))
    return 3.14 * radius * radius

def triangle_area():
    base = float(input("Enter the base of the triangle: "))
    height = float(input("Enter the height of the triangle: "))
    return 0.5 * base * height


print("\nChoose an option to calculate area:")
print("1. Rectangle")
print("2. Circle")
print("3. Triangle")
print("4. Exit")

choice = int(input("Enter your choice: "))

if choice == 1:
    area = rectangle_area()
    print("Area of the rectangle is:", area)
elif choice == 2:
    area = circle_area()
    print("Area of the circle is:", area)
elif choice == 3:
    area = triangle_area()
    print("Area of the triangle is:", area)
elif choice == 4:
    print("Exiting the program")
else:
    print("Invalid choice. Please try again.")
```

```
Choose an option to calculate area:
1. Rectangle
2. Circle
3. Triangle
4. Exit
Enter your choice: 1
Enter the length of the rectangle: 5
Enter the breadth of the rectangle: 6
Area of the rectangle is: 30.0

=== Code Execution Successful ===
```