Python Operators

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Python Operators

1- Calculate the sum, difference, product, and quotient of two numbers.

[2]:
```
num1 = int(input("Enter first number:"))
num2 = int(input("Enter Second number:"))

sum_result = num1 + num2
print("The sum of num1 and num2:",sum_result)

difference_result = num1 - num2
print("The difference of num1 and num2:",difference_result)

product_result = num1 * num2
print("The product of num1 and num2:",product_result)

quotient_result = num1 / num2
print("The quotient of num1 and num2:",quotient_result)
```

```
Enter first number: 30
Enter Second number: 5

The sum of num1 and num2: 35
The difference of num1 and num2: 25
The product of num1 and num2: 150
The quotient of num1 and num2: 6.0
```

2- Perform various assignment operations on a variable.

[ ]:
```
x = 35

x += 5
print("Addition:", x)

x -= 10
print("Subtraction:", x)

x *= 2
print("Multiplication:", x)
```

```
x /= 5
print("Division:", x)

x %= 8
print("Modulus:", x)

x **= 2
print("Exponentiation:", x)

x //= 2
print("Floor Division:", x)
```

```
Addition: 40
Subtraction: 30
Multiplication: 60
Division: 12.0
Modulus: 4.0
Exponentiation: 16.0
Floor Division: 8.0
```

3- Compare two numbers and print the results.

[20]:
```
num1 = 17
num2 = 32

print("num1:", num1)
print("num2:", num2)

print("num1 < num2:", num1<num2)
print("num1 > num2:", num1>num2)
print("num1 <= num2:", num1<=num2)
print("num1 >= num2:", num1>=num2)
print("num1 == num2:", num1==num2)
print("num1 != num2:", num1!=num2)
```

```
num1: 17
num2: 32
num1 < num2: True
num1 > num2: False
num1 <= num2: True
num1 >= num2: False
num1 == num2: False
num1 != num2: True
```

4- Check conditions using logical operators.

[31]:
```
x = 7
y = 22
if x > 0 and y > 0:
```

```
    print("Both x and y are greater than 0")

age = 65
if age < 18 or age >= 65:
    print("You get a discount")

is_raining = False
if not is_raining:
    print("No need for an umbrella!")
```

```
Both x and y are greater than 0
You get a discount
No need for an umbrella!
```

5- Check the identity of variables.

[36]:
```
x = 15
y = 15

if x is y:
    print("x and y have the same identity")
else:
    print("x and y have the different identity")
```

```
x and y have the same identity
```

6- Perform bitwise operations on any two integers.

[37]:
```
a = 20
b = 8

result_and = a & b
print("Bitwise AND:", result_and)

result_or = a | b
print("Bitwise OR:", result_or)

result_xor = a ^ b
print("Bitwise XOR:", result_xor)

result_not_a = ~a
print("Bitwise NOT of a:", result_not_a)

result_left_shift = a << 2
print("Bitwise Left Shift of a by 2:", result_left_shift)

result_right_shift = a >> 2
print("Bitwise Right Shift of a by 2:", result_right_shift)
```

```
Bitwise AND: 0
Bitwise OR: 28
Bitwise XOR: 28
Bitwise NOT of a: -21
Bitwise Left Shift of a by 2: 80
Bitwise Right Shift of a by 2: 5
```

7- Use Unary operators to change the sign of a number.

[41]:
```python
num = 10
print("Number:", num)

negative_num = -num
print("Number after changing sign:", negative_num)
```

```
Number: 10
Number after changing sign: -10
```

8- Use the ternary operator to assign values based on conditions.

[43]:
```python
x = 15
y = 10

min_value = x if x < y else y
print("Minimum value:", min_value)
```

```
Minimum value: 10
```