Python Programming

EDUCATION FOR PEACE

(ESTD-1995)

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PYTHON OPERATORS-4

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Learning Mantra

If you really strong in the basics, then remaining things will become so easy.

Agenda:

1. **Assignment Operator**
2. **Ternary Operator (or) Conditional Operator**

7. Assignment Operator

- We can use assignment operator to assign value to the variable.

Eg:

X = 2

- We can combine assignment operator with some other operator to form compound assignment operator.

Eg:

```
x+=10 ====> x = x+10
x = 10
x += 20      # x = x + 20
print(x)     ➔30
```

The following is the list of all possible compound assignment operators in Python:

+=

-=

*=

/=

%=

//=

**=

&=

|=

^=

<<= and >>=

Eg:

```
x = 10        # 1010
x &= 5        # 0101
print(x)      ➔0

x = 10
x **= 2       # x = x**2
print(x)      ➔100
```

Now, we want to discuss about one loop hole in Python Operators. Let us consider the following example,

Case 1:

```
x = 10
x++
print(x)      ➔SyntaxError: invalid syntax
```

Case 2:

```
x = 10
x--
print(x)      ➔SyntaxError: invalid syntax
```

In both the cases, we are getting syntax error, because in Python increment/decrement operators concept is not there.

Let us see the following code:

x = 10

print(++x) ➔10

print(++++x) ➔10

➔Here, + and - are sign bits, not increment and decrement operators

print(-x) ➔-10

print(--x) ➔10

print(++++++++++++-x) ➔-10

print(-------------+x) ➔-10

8. Ternary Operator (or) Conditional Operator

Note:

- If the operator operates on only one operand, we will call such operator as unary operator. **Eg:,** ~a.
- If the operator operates on Two operands, we will call such operator as binary operator. **Eg:,** a + b.
- If the operator operates on Three operands, we will call such operator as Ternary operator.

Syntax:

x = firstValue if condition else secondValue

- If condition is True then firstValue will be considered else secondValue will be considered.

Eg 1:

```
a,b=23,43                     # a =23 b = 43
c = 50 if a>b else 100
print(c)          ➔100
```

Eg 2: Read two integer numbers from the keyboard and print minimum value using ternary operator.

```
a=int(input("Enter First Number:"))          #Input the value through Keyboard
b=int(input("Enter Second Number:"))         #Input the value through Keyboard
min=a if a<b else b                          # Ternary Operator
print("Minimum Value:",min)                  # Displaying the result
```

Output:

```
Enter First Number:255
Enter Second Number:22
Minimum Value: 22
```

Nesting of ternary operator is possible.

Eg 3: Program for finding minimum of 3 numbers using nesting of ternary operators.

```
a=int(input("Enter First Number:"))
b=int(input("Enter Second Number:"))
c=int(input("Enter Third Number:"))
min= a if a<b and a<c else b if b<c else c
print("Minimum Value:",min)
```

Output:

```
Enter First Number:10
Enter Second Number:20
Enter Third Number:30
Minimum Value: 10
```

Eg 4: Program for finding maximum of 3 numbers

Eg 5: Assume that there are two numbers, x and y, whose values to be read from the keyboard, and print the following outputs based on the values of x and y.

case 1: If both are equal, then the output is : Both numbers are equal

case 2: If first number is smaller than second one, then the output is: First Number is Less than Second Number

case 3: If the first number is greater than second number, then the output is : First Number Greater than Second Number

Note: Use Ternary Operator

Sol:

```
a=int(input("Enter First Number:"))
b=int(input("Enter Second Number:"))
print("Both numbers are equal" if a==b else "First Number is Less than Second Number“ if a<b else "First Number Greater than Second Number")
```

Any question?

If you try to practice programs yourself, then you will learn many things automatically

Spend few minutes and then enjoy the study

Thank You