

Refer to the link below to get an idea about the following python operators.

- **Python Arithmetic Operators**
- **Python Assignment Operators**
- **Python Comparison Operators**
- **Python Logical Operators**

LINK: https://www.w3schools.com/python/python_operators.asp

Let's Play a Bit ...

Try **one line** from the next set of statements and observe the output.

Test them in Python Shell.

Activity 1 – Arithmetic Operators

```
>>> 5 + 2
>>> 5 - 2
>>> 5 * 2
>>> 5 / 2
>>> 5 % 2
>>> 5 ** 2
>>> 5 // 2
```

Activity 2 – Comparisons Operators

```
>>> a = 10
>>> b = 15
>>> a == b
>>> a != b
>>> a > b
>>> a < b
>>> a >= b
>>> a <= b
```

Activity 3 – Logical Operators

```
>>> x=10
>>> y=20
>>> x > 0 and x < 10
>>> x > 0 and y > 10
>>> x > 10 or y > 10
>>> x%2 == 0 and y%2 == 0
>>> not (x+y>15)
```

Activity 4 – Assignment Operators

X = X + 1 is actually X += 1

```
>>> x = 10
>>> x
>>> x += 10
>>> x
>>> x -= 5
>>> x
>>> x *= 2
>>> x
>>> x /= 5
>>> x
>>> x %= 4
>>> x
>>> x ** = 4
>>> x
>>> x // = 5
>>> x
```

Activity 5 – Number Conversions

```
>>> y = 56
>>> y
>>> x = 45.658
>>> x
>>> int(x)
>>> float(y)
```

Activity 6 – Print Statements

```
>>> x = 5
>>> print(X)
>>> name = "Tharushi"
>>> print (name)
>>> print (Tharushi)
>>> print ("Amarasinghe")
>>> year = 2024
>>> print ("This year is", year)
>>> print ("This year is", year, "and you have", x, "toffees in your hand")
>>> print ('How about this?')
```

Python Operator Precedence

Operator precedence describes the order in which operations are performed.

Operator	Description
()	Parentheses
**	Exponentiation
+x -x ~x	Unary plus, unary minus, and bitwise NOT
* / // %	Multiplication, division, floor division, and modulus
+ -	Addition and subtraction
<< >>	Bitwise left and right shifts
&	Bitwise AND
^	Bitwise XOR
	Bitwise OR
== != > >= < <=	Comparisons, identity, and membership operators
is is not in not in	
not	Logical NOT
and	AND
or	OR

- Parentheses have the highest precedence, meaning that expressions inside parentheses must be evaluated first:

Example 1: `print((6 + 3) - (6 + 3))` -----→ Output ?

- Multiplication `*` has higher precedence than addition `+`, and therefore multiplications are evaluated before additions:

Example 2: `print(100 + 5 * 3)` -----→ Output ?

- Addition `(+)` and Subtraction `(-)` have the same precedence, and therefore we evaluate the expression from left to right:

Example 3: `print(5 + 4 - 7 + 3)` -----→ Output ?

Activity 7 – Operator Precedence

```
>>> (5 != 5) or (6 >= 6)
```

```
>>> (((13+5)*2)-4)/2)-13
```

```
>>> 5 + 3 * 2 ** 2 // 4
```

Creating Python Programs

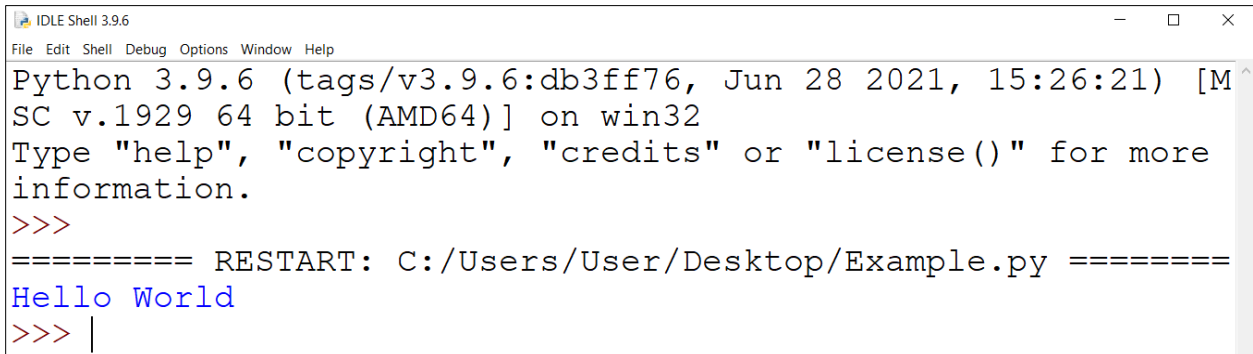
- Python codes can be done with simple text editors
- Open Python Shell
 - Click on **File -> New File**
 - Type your code
 - Save the file with the extension .py
 - **File -> Save**
 - Click **Run -> Run Module (Or Press F5)**
 - Observe the output in Python Shell

Example: -

First Python Program – Hello World



Python IDLE text editor



Python IDLE Shell