

## Arithmetic Operators

Operator	Description
+	<p>This operator is used to perform two operations</p> <ol style="list-style-type: none"><li>1. Adding numbers</li><li>2. Concatenation of Sequences (string,list,tuple,..)</li></ol> <p>If two operands are numbers it perform addition If two operands are sequences it perform concatenation</p> <pre>&gt;&gt;&gt; a=10+20 &gt;&gt;&gt; b=1.5+1.2 &gt;&gt;&gt; c=1+2j+1+1j &gt;&gt;&gt; print(a,b,c,sep="\n") 30 2.7 (2+3j) &gt;&gt;&gt; d=True+True &gt;&gt;&gt; print(d) 2 &gt;&gt;&gt; e=False+False &gt;&gt;&gt; print(e) 0 &gt;&gt;&gt; f=True+False &gt;&gt;&gt; print(f) 1 &gt;&gt;&gt; s1="python" &gt;&gt;&gt; s2="language" &gt;&gt;&gt; s3=s1+s2 &gt;&gt;&gt; print(s1,s2,s3,sep="\n") python language pythonlanguage &gt;&gt;&gt; s1="python" &gt;&gt;&gt; s2="3.10" &gt;&gt;&gt; s3=s1+s2 &gt;&gt;&gt; print(s1,s2,s3,sep="\n") python 3.10 python3.10 &gt;&gt;&gt; s1="python"</pre>

	<pre> &gt;&gt;&gt; s2=3.10 &gt;&gt;&gt; s3=s1+s2 Traceback (most recent call last):   File "&lt;pyshell#20&gt;", line 1, in &lt;module&gt;     s3=s1+s2 TypeError: can only concatenate str (not "float") to str  &gt;&gt;&gt; python_students=["naresh","suresh","kishore"] &gt;&gt;&gt; ds_students=["kiran","ramesh"] &gt;&gt;&gt; python_ds_students=python_students+ds_students &gt;&gt;&gt; print(python_students) ['naresh', 'suresh', 'kishore'] &gt;&gt;&gt; print(ds_students) ['kiran', 'ramesh'] &gt;&gt;&gt; print(python_ds_students) </pre>
-	<p>This operator is used to subtract operation This operator is used with numeric types</p> <pre> &gt;&gt;&gt; n1=10 &gt;&gt;&gt; n2=5 &gt;&gt;&gt; n3=n1-n2 &gt;&gt;&gt; print(n1,n2,n3,sep="\n") 10 5 5 &gt;&gt;&gt; f1=1.5 &gt;&gt;&gt; f2=1.0 &gt;&gt;&gt; f3=f1-f2 &gt;&gt;&gt; print(f1,f2,f3,sep="\n") 1.5 1.0 0.5 </pre> <p><b>Implicit Conversion</b></p> <p>When arithmetic operation is performed on two different data types it return result in broader type</p> <ol style="list-style-type: none"> <li>1. int</li> <li>2. float</li> </ol>

3. complex

4. boolean

complex>float>int>boolean

```
>>> r1=1+2j+1
>>> print(r1,type(r1))
(2+2j) <class 'complex'>
>>> r2=1+2j+1.5
>>> print(r2,type(r2))
(2.5+2j) <class 'complex'>
>>> r3=1+2j+True
>>> print(r3,type(r3))
(2+2j) <class 'complex'>
>>> r4=10+20-5
>>> print(r4)
25
>>> r5=1+2j+3j
>>> print(r5)
(1+5j)
>>> res1=1+2.0
>>> print(res1)
3.0
>>> res2=int(1+2.0)
>>> print(res2)
3
```

Example:

# write a program to input total marks two students

# find difference between total marks

```
total_stud1=int(input("enter total marks of stud1"))
total_stud2=int(input("enter total marks of stud2"))
diff_total=total_stud1-total_stud2
print(total_stud1,total_stud2,diff_total)
```

**Output:**

```
===== RESTART: F:/python6pmaug/test18.py
```

```
=====
```

```
enter total marks of stud1200
```

	<pre> enter total marks of stud2180 200 180 20  ===== RESTART: F:/python6pmaug/test18.py ===== enter total marks of stud1180 enter total marks of stud2290 180 290 -110 </pre>
*	<p>This operator is used to perform two operations</p> <ol style="list-style-type: none"> <li>1. Multiplication</li> <li>2. Repeat a sequence</li> </ol> <p>If two operands are numeric type, it perform multiplication  If one operand is sequence type and other operand is integer type if perform repetition</p> <p><b>Example:</b>  # write a program to input product name,price,qty  # calculate total total amount</p> <pre> pname=input("Input Product Name") qty=int(input("Input Qty")) price=float(input("Input Price")) total=qty*price print(pname,qty,price,total,sep="\n") </pre> <p><b>Output:</b>  Input Product NameKeyboard  Input Qty2  Input Price2500  Keyboard  2  2500.0  5000.0</p> <p><b>Example:</b>  # find area of circlce  # area=pi*r*r  import math  r=float(input("enter radius"))</p>

	<pre>area=math.pi*r*r print("area of circle is ",round(area,2))</pre> <p><b>Output:</b>  enter radius1.2  area of circle is 4.52</p>
/	
//	
%	
**	