

/

Float division Operator

This operator divides two numbers and return result in float.
This operator returns quotient.

```
>>> a=4
>>> b=2
>>> c=a/b
>>> print(a,b,c)
4 2 2.0
>>> x=5
>>> y=2
>>> z=x/y
>>> print(x,y,z)
5 2 2.5
>>> 1+2j/1+3j
(1+5j)
>>> (1+2j)/(1+3j)
(0.7000000000000001-0.1j)
```

Example

```
# Write a program to find simple interest
# si=ptr/100
```

```
p=float(input("Enter Amount :"))
t=int(input("Enter Time :"))
r=float(input("Enter Rate :"))
```

```
si=p*t*r/100
```

```
print("Simple Interest is ",si)
```

Output

```
Enter Amount :5000
Enter Time :12
Enter Rate :2
Simple Interest is  1200.0
```

```
Enter Amount :6000
```

Enter Time :6
Enter Rate :1.5
Simple Interest is 540.0

Example:

Write a program to convert dollar to rs

```
dollar=int(input("Enter Dollar: "))  
rs=dollar*80
```

```
print(dollar,rs)
```

Write a program to convert rs to dollar

```
rs=int(input("Enter Rs :"))  
dollar=rs/80
```

```
print(rs,int(dollar))
```

Enter Dollar: 2
2 160
Enter Rs :160
160 2.0

Enter Dollar: 2
2 160
Enter Rs :160
160 2

//

Floor division Operator

This operator divides two numbers and return result in integer (quotient).

Return the **floor** of x, the largest integer less than or equal to x

a=4
b=2
c=a//b

a=5
b=2
c=a//b

Handwritten calculations for floor division:

For a=4, b=2: $2 \overline{) 4} \begin{matrix} 2 \\ \times \\ \hline 4 \end{matrix}$

For a=5, b=2: $2 \overline{) 5} \begin{matrix} 2 \\ \times \\ \hline 4 \\ \hline 1 \end{matrix}$

Final result for a=5, b=2 is circled as 2.

	<p>Example:</p> <pre> >>> a=4 >>> b=2 >>> c=a//b >>> print(a,b,c) 4 2 2 >>> x=5 >>> y=2 >>> z=x//y >>> print(x,y,z) 5 2 2 >>> p=-5 >>> q=2 >>> r=p//q >>> print(p,q,r) -5 2 -3 </pre>
%	<p>Modulo Operator This operator divides two numbers and returns remainder.</p> <pre> >>> a=4 >>> b=2 >>> c=a%b >>> print(a,b,c) 4 2 0 >>> x=9 >>> y=5 >>> z=x%y >>> print(x,y,z) 9 5 4 </pre>
**	<p>Exponent operator This operator finds the power of a number</p> <pre> >>> a=5 >>> b=a**3 >>> print(a,b) 5 125 </pre>

	<pre>>>> c=6 >>> d=c**2 >>> print(c,d) 6 36</pre>
	<p>Precedence of Arithmetic Operators</p> <ol style="list-style-type: none"> 1. ** 2. * / // % 3. + - <p>Operators with same precedence is evaluated from left to right except for **, which is evaluated from right to left.</p> <p>Example:</p> <pre>a=3+5*5-3 print(a) b=(3+5)*(5-3) print(b) c=6*3/2//4 print(c) d=1**2**3 print(d)</pre> <p>Output</p> <pre>25 16 2.0 1</pre>

Relational Operators

Relational operators are used for comparing values. The expression created using relational operators is called Boolean expression. This expression returns Boolean value (True/False)

>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
!=	Not equal
==	Equal

eval(): It is a predefined function of python. This function evaluates the expression represented as string.

Example:

```
r1=eval("1+2*3")
print(r1)
r2=eval("4*2/3")
print(r2)
r3=eval("1.5")
print(r3,type(r3))
r4=eval("10")
print(r4,type(r4))
r5=eval("1+2j")
print(r5,type(r5))
```

Output

```
7
2.6666666666666665
1.5 <class 'float'>
10 <class 'int'>
(1+2j) <class 'complex'>
```

Example:

Write a program to add two numbers

```
n1=eval(input("Enter First Number "))
n2=eval(input("Enter Second Number "))
n3=n1+n2
print(n1,n2,n3)
print(type(n1),type(n2),type(n3))
```

Output

```
Enter First Number 5
Enter Second Number 2.0
5 2.0 7.0
<class 'int'> <class 'float'> <class 'float'>
```

```
Enter First Number 1+2j
Enter Second Number 1+1j
```

(1+2j) (1+1j) (2+3j)
<class 'complex'> <class 'complex'> <class 'complex'>

In python relational operators are used to compare numbers and sequences.

>	Greater than Opr1>opr2 If opr1 greater than opr2, returns True If opr1 not greater than opr2, returns False
	Example: >>> a=10 >>> b=5 >>> c=a>b >>> print(a,b,c) 10 5 True >>> d=b>a >>> print(a,b,d) 10 5 False >>> x=10>5>2 >>> print(x) True >>> y=10>5>20 >>> print(y) False
<	Less than operator

Home Work

1. Write a program to find area of triangle
2. Write a program to find compound interest
3. Write a program to input two numbers and perform all arithmetic operations
4. Write a program convert temperature Celsius to Fahrenheit and Fahrenheit to Celsius
5. Write a program to find power of input two numbers

pythonbygupta@gmail.com