Python – Basics

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Check List
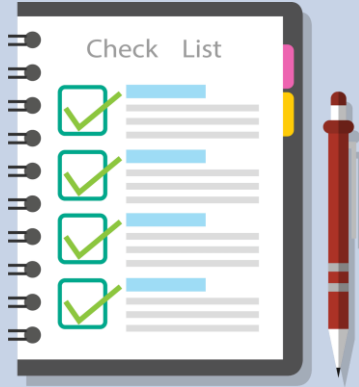
Python Basics Operations
- Arithmatic Operator
- Relational Operator
- Bit Wise Operator
- Logical Operator
- Assignment Operator
- I/O Program

Arithmetic Operations

Operator	Operation	Example
+	Addition	5+10
-	Subtraction	10-7
*	Multiplication	5*10
/	Division	8/2
%	Modulus/ reminder	5%2
**	Exponent	2**3

Relational operators

Operator	Operation	Example
==	Comparing LHS & RHS, returns True if both equal	(a == b), True if both are equal
!=	Not Equals to, Compares LHS & RHS, True when not equal	(a != b), True if both are not equal
>	True, if LHS Greater than RHS	(5 > 3) -> True
<	True, if LHS Lesser than RHS	(5 < 10) -> True
>=	LHS Greater than or equals to RHS	4 >= 2 -> True 4 >= 4 -> True
<=	LHS Lesser than or equals to RHS	5 <= 9 -> True 5 <= 5 -> True

Bitwise Operators

Operator	Operation	Example
&	Bitwise And: copies result if both has values	A = 1001 B = 1010 A & B = 1000
|	Bitwise OR: copies result if any one has a values	A = 1001 B = 1010 A | B = 1011
^	Bitwise XOR: Copies result if both are opposite bit	A = 1001 B = 1010 A ^ B = 0011
<<	Left Shift: it moves bits left specified number of positions	A = 1001 A <<1 A -> 0010
>>	Right Shift: it moves bits right specified number of positions	A = 1001 A >>1 A -> 0101

Logical Operations

Operator	Operation	Example
And	If both the operators are true -> True	A and B
or	If any one of the operator is True -> True	A or B
not	Use to reverse the operand value	not A -> False If A was True

Assignment Operators & short hands

Operator	Operation	Example
=	Assignment: assigns RHS to LHS	a = 5
+=	Short hand of Addition	c += 2 c = c + 2
-=	Short hand for subtraction	c -= 3 c = c - 3
*=, /=, %=, **=, //=	Short Hand for various arithmetic operations	Try out all possible short hands

I/O Program

Write a program which takes two values and do various operations

1.   Arithmetic operations (+, -, * , /, %, **, //)
2.   Relational operations (<, >, ==, !=, <=, >=)

1. Write a code to List out the difference between bitwise 'AND' and logical & operators

2. Write a code to take input from user and perform
   a. Arithmetic operation
   b. Logical operation
   c. Relational operation
   d. bitwise operation
   c. Assignment operation

3. Write a program to understand the bitwise shift operation

4. Write a program to Multiply element using bitwise shift operation ('<<' or '>>')