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| --- |
| Operators in java **Operator** in java is a symbol that is used to perform operations. For example: +, -, \*, / etc.  There are many types of operators in java which are given below:   * Unary Operator, prefix , postfix * Arithmetic Operator, * Shift Operator, * Relational Operator, * Bitwise Operator, * Logical Operator, * Ternary Operator and * Assignment Operator.  Java Operator Precedence |

|  |  |  |
| --- | --- | --- |
| **Operator Type** | **Category** | **Precedence** |
| Unary | Postfix | expr++ expr—i++,i-- |
| Prefix | ++expr --expr +expr -expr ~ ! |
| Arithmetic | Multiplicative | \* / % |
| Additive | + - |
| Shift | Shift | <<,>> |
| Relational | Comparison | <>,<=, >= |
| Equality | == != |
| Bitwise | bitwise AND | & |
| bitwise exclusive OR | ^ |
| bitwise inclusive OR | | |
| Logical | logical AND | && |
| logical OR | || |
| Ternary | Ternary | ? : |
| Assignment | Assignment | = += -= \*= /= %= &= |

### Java Unary Operator Example: ++ and –

### class OperatorExample{

**public static void main(String args[]){**

**int x=10;**

**System.out.println(x++);//10 (11)**

**System.out.println(x++);//11(12)**

**System.out.println(x++);//12 (13)**

**System.out.println(x--);//13  (12)**

**System.out.println(x--);//12  (11)**

**System.out.println(x++);//11  (12)**

**}}**

class OperatorExample{

**public static void main(String args[]){**

**int x=10;**

**System.out.println(++x);//11 (11)**

**System.out.println(++x);//12(12)**

**System.out.println(--x);//11 (11)**

**System.out.println(--x);//10  (10)**

**System.out.println(++x);//11  (11)**

**}}**

Int x=202;

X++ 202,203

X++ 203,204

--x203,203

--x202,202

X++202,203

### Java Unary Operator Example 2: ++ and --

**class OperatorExample{**

**public static void main(String args[]){**

**int a=10;**

**int b=10;**

**System.out.println(a++ + ++a);//10+12=22**

**System.out.println(b++ + b++);//10+11=21**

**}}**

### Java Left Shift Operator Example

### class OperatorExample{

### public static void main(String args[]){

### System.out.println(10<<2);//10\*2^2=10\*4=40

### System.out.println(10<<3);//10\*2^3=10\*8=80

### System.out.println(20<<2);//20\*2^2=20\*4=80

### System.out.println(15<<4);//15\*2^4=15\*16=240

### }}

### Java Right Shift Operator

The Java right shift operator >> is used to move left operands value to right by the number of bits specified by the right operand.

### class OperatorExample{

### public static void main(String args[]){

### System.out.println(10>>2);//10/2^2=10/4=2

### System.out.println(20>>2);//20/2^2=20/4=5

### System.out.println(20>>3);//20/2^3=20/8=2

### }}

### Java AND Opera tor Example: Logical && and Bitwise &

AND-TT-T, TF-F,FT-F, FF-F.

OR – TT-T,TF-T,FT-T,FF-F

class OperatorExample{

### public static void main(String args[]){

### int a=10;

### int b=5;

### int c=20;

### System.out.println(a<b&&a<c);//false && true = false

### System.out.println(a<b&a<c);//false & true = false

### System.out.println(a<b|a<c);//false|true = true

### System.out.println(a<b||a<c);//false || true = true

### }}

### Java Ternary Operator

Java Ternary operator is used as one liner replacement for if-then-else statement and used a lot in java programming. it is the only conditional operator which takes three operands.

### class OperatorExample{

### public static void main(String args[]){

### int a=2;

### int b=5;

### int min=(a<b)?a:b;   (A<B)? :

### System.out.println(min);

### }}

### o/p

### 2

### class OperatorExample{

### public static void main(String args[]){

### int a=10;

### int b=5;

### int min=(a<b)?a:b;

### System.out.println(min);

### }}

### o/p

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### Java Assignment Operator Example

### class OperatorExample{

### public static void main(String args[]){

### int a=10;

### int b=20;

### a+=4;//a=a+4 (a=10+4)

### b-=4;//b=b-4 (b=20-4)

a\*=5// a=a\*5(14\*5=70)

### System.out.println(a);

### System.out.println(b);

### }}

### Output:

### 14

### 16

### Java Assignment Operator Example

### class OperatorExample{

### public static void main(String[] args){

### int a=10;

### a+=3;//10+3

### System.out.println(a);

### a-=4;//13-4

### System.out.println(a);

### a\*=2;//9\*2

### System.out.println(a);

### a/=2;//18/2

### System.out.println(a);

### }}

### Output:

### 13

### 9

### 18

### 9