

#Operators in Java

Symbols that tell compiler to perform some Operation.

*operator
Expression*

sum = a + b

operands

#Types of Operators

- *Arithmetic Operators (Binary/Unary)*
- *Relational Operators*
- *Logical Operators*
- *Bitwise Operators*
- *Assignment Operators*

#Arithmetic Operators

BINARY

$$+ \rightarrow A+B = 10+5 = 15$$

$$- \rightarrow A-B = 10-5 = 5$$

$$\ast \rightarrow A\ast B = 10\ast 5 = 50$$

$$/ \rightarrow A/B = 10/5 = 2$$

$$\% \text{ (modulo)} \rightarrow A\%B = 10\%5 = 0$$

UNARY

(increment) $\text{++} \rightarrow a = a+1 = a\text{++}, \text{++}a$

(decrement) $\text{--} \rightarrow a = a-1 = a\text{--}, \text{--}a$

Pre Increment ($\text{++}a$)

- 1. value change
- 2. value use

Pre Decrement ($\text{--}a$)

- 1. value change
- 2. value use

Post Increment ($a\text{++}$)

- 1. value use
- 2. value change

Post Decrement ($a\text{--}$)

- 1. value use
- 2. value change

#Relational Operators

$\text{==} \rightarrow$ equal (True or False)

$\text{!=} \rightarrow$ not equal (True or False)

$> \rightarrow A(10)>B(5) \rightarrow$ True, $A(5)>B(10) \rightarrow$ False

< → A(10)<B(5) → Flase, A(5)<B(10) → True

>= → greater than or equal to

<= → less than or equal to

#Logical Operators $\text{St} \rightarrow \text{Statement}$

&&(Logical AND) $\rightarrow \begin{cases} (\text{St1})\&\&(\text{St2}) & \rightarrow \text{True} \\ \text{T T} & \\ (\text{St1})\&\&(\text{St2}) & \rightarrow \text{False} \\ \text{TF, FT, F F} & \end{cases}$

||(Logical OR) $\rightarrow \begin{cases} (\text{St1})||(\text{St2}) & \rightarrow \text{False} \\ \text{F F} & \\ (\text{St1})||(\text{St2}) & \rightarrow \text{True} \\ \text{TT, TF, FT} & \end{cases}$

!(Logical NOT) $\rightarrow \begin{cases} \text{True} \rightarrow \text{False} \\ \text{False} \rightarrow \text{True} \end{cases}$

#Assignment Operators

= $\overbrace{A=B}^{(x)} \quad \underbrace{A}_{S} = B \quad \text{int } A = 10$

+= $A=A+10 \rightarrow A+=10 \rightarrow 20$

-= $A=A-10 \rightarrow A-=10 \rightarrow 0$

= $A=10 \rightarrow 100$

/= $A/=10 \rightarrow 0$