**Java class week 3**

**Types of Operator in Java**

1. Basic Arithmetic Operators : as basic arithmetic operators we have +, -, \*, /, %

2) Assignment Operators . Assignments operators in java are: =, +=, -=, \*=, /=, %=

Int i1 = 2;

I1 \*= 5 + 1; // je peux le voir ds 2\*equal a 6

I1 = i1 \* (5 + 1) // ici je peux dire 2 = 2\* (6) qui donne 12

Not to

I1 = i1 \* 5 + 1 // ici je peux dire i1 = 2\*5 +1 qui me donnera 11

3) Auto-increment and Auto-decrement Operators

++ and —  
**num++** is equivalent to num=num+1;

**num–-** is equivalent to num=num-1;

(here I can define ++ as mun +1 (int i = 5; int j = i++ )

// je peux I = I + 1

a = 5

++a; // a becomes 6 (++a; (adjouter 1 a a et ensuit tu l affiches))

a++; // a becomes 7 (a++; (tu affiches a et ensuite tu adjoute 1))

--a; // a becomes 6

a++ // a becomes 5

**note:**

* If you use the ++ operator as prefix like: ++var. The value of var is incremented by 1 then, it returns the value.
* If you use the ++ operator as postfix like: var++. The original value of var is returned first then, var is incremented by 1.

The -- operator works in a similar way like the ++ operator except it decreases the value by 1.

4) Logical Operators ( &&,II,! )

a-let say we have two Boolean variables b1 && b2

b1 and b2 are return true else it would return true

b- **b1||b2** will return false if both b1 and b2 are false else it would return true.

**c- !b1** would return the opposite of b1, that means it would be true if b1 is false and it would return false if b1 is true.

5) Comparison (relational) operators : ==, !=, >, <, >=, <=

1. **==** returns true if both the left side and right side are equal.
2. **!=** returns true if left side is not equal to the right side of operator.
3. **>** returns true if left side is greater than right.
4. **<** returns true if left side is less than right side.
5. **>=** returns true if left side is greater than or equal to right side.
6. **<=** returns true if left side is less than or equal to right side.

6) Bitwise Operators ( There are six bitwise Operators: &, |, ^, ~, <<, >>

7) Ternary Operator.

This operator evaluates a boolean expression and assign the value based on the result. ( If the expression results true then the first value before the colon (:) is assigned to the variable num1 else the second value is assigned to the num1.)

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| --- |
| Unary Operators **++  – –  !  ~** |
| Multiplicative **\*  / %** |
| Additive **+  –** |
| Shift **<<  >>  >>>** |
| Relational **>  >=  <  <=** |
| Equality **==  !=** |
| Bitwise AND **&** |
| Bitwise XOR **^** |
| Bitwise OR **|** |
| Logical AND **&&** |
| Logical OR **||** |
| Ternary **?:** |

# If, If..else Statement in Java

1. if statement  
   b) nested if statement  
   c) if-else statement  
   d) if-else-if statement

# Java Operators

Operators are symbols that perform operations on variables and values. For example, + is an operator used for addition, while \* is also an operator used for multiplication.

Operators in Java can be classified into 5 types:

1. Arithmetic Operators
2. Assignment Operators
3. Relational Operators
4. Logical Operators
5. Unary Operators
6. Bitwise Operators