OPERATORS AND ASSIGNMENTS

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Operators and Assignments

- Arithmetic
- Increment/Decrement
- Concatenation
- Relational
- Equality
- Assignment
- Bitwise
- Short-circuit
- Conditional
- new
- [] operator

Arithmetic Operators

- Operator symbols are as below
 - + : Addition
 - - : Subtraction
 - * : Multiplication
 - / : Divide
 - % : Modulo
 - Ex:
 - 010/3 = 3
 - 10%3 = 1 --- it gives remainder

Increment/Decrement Operators

- It is going to increase or decrease the variable by 1.
- It is only applicable on variables.
- It is of two types:
 - increment (++)
 - Ex : int a = 1;
 - a++ means a = a + 1
 - decrement (--)
 - Ex : int b = 10;
 - b-- means b = b 1

Concatenation Operator

- The only overloaded method in Java is +.
- Sometimes acts as arithmetic addition and sometimes acts as String concatenation.
- Given int a=10, b=20, c=30; String d = "Ram".
 - a+b+c+d = 60Ram
 - a+b+d+c = 30Ram30
 - d+a+b+c = Ram102030
 - a+d+b+c = 10Ram2030

Relational Operators

- These are
 - > : greater than
 - < : less than</p>
 - >= : greater than or equals to
 - <= : less than or equals to</p>
- They can be applied for every primitive datatype except boolean
- They can't be applied on object.

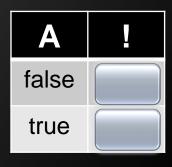
Equality And Assignment Operators

- Equality are
 - == : equals to
 - != : not equals to
- We can apply for all primitive
- We can apply on objects references :
 - For two object references r1 and r2, r1 == r2 returns true if they pointing to same object.
- Assignment is =
 - It is the only operator which is applicable from right to left.
 - Ex: int x = 10;

Bitwise and Short circuit Operators

- Bitwise are
 - & : AND if any operand is false, result false.
 - | : OR if any operand is true, result true.
 - ! : Negation reverses the truth value for boolean.

| A | В | & | |
|-------|-------|---|--|
| false | false | | |
| false | true | | |
| true | false | | |
| true | true | | |



- Short circuit are
 - &&: Double AND 2nd operand is evaluated if 1st is true.
 - ■ | : Double OR 2nd operand is evaluated if 1st is false.

Conditional, new and [] Operators

- Conditional is represented by (?:).
- The only ternary operator in Java.
 - Example:
 - int a=10, b=20;
 - int x = (a>b)?40:50;
- We use new operator for creation of objects.
 - String s = new String("Saturday");
- We use [] operator for declaring and creating arrays.
 - int arr[] = new arr[5];