DAY-11 [OPERATORS]

------------------

OPERATORS: Operators are the symbols used to perform operation on the operand.

eg: a + b , where a,b is operand and symbol '+' is a operator.

TYPES OF OPERATORS:

-------------------

1. Arithematic Operator --> + - \* / %

2. Unary Operator --> ++ --

3. Assignment Operator --> = += -= \*= /= %=

4. Comparision Operator --> == != >= <=

5. Logical/bitwise Operator --> & | ^ ~

6. Shift Operator --> >> <<

7. Ternary Operator --> exp1? exp2 exp3

8. ShortCircuit/Logical --> && ||

Operator

------------------------------------------------------------------------------------

Arithematic operator and Unary Operator

1.INCREMENTATION

----------------

refer diagram:

eg:1

----

UnaryOperator.java

-------------------

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); o/p--> 7

System.out.println(++a); 7---> ++ 8, o/p--> 8

System.out.println(a); o/p--> 8

System.out.println(a++); 0/p--> 8 8--> 8++ -->9

System.out.println(a); o/p--> 9

}

}

---------------------------------------------------------------------------------------

2. DECREMENTATION

eg:1

----

UnaryOperator.java

------------------

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); o/p--> 7

System.out.println(a--); o/p--> 7 ,7 --, -->6

System.out.println(a); o/p--> 6

System.out.println(--a); 6--> 6 -- -> 5 o/p--> 5

System.out.println(a); o/p--> 5

}

}

--------------------------------------------------------------------------------------------

eg:3

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); --> 7

System.out.println(++a); --> 8

System.out.println(a); --> 8

System.out.println(a++); --> 8 -->9

System.out.println(--a); --> 9->8 8

System.out.println(a); --> 8

}

}

----------------------------------------------------------------------------------------------

eg:4

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a++); // 7 -->8

System.out.println(++a); // 8->9 9

System.out.println(--a); // 9->8 8

System.out.println(a--); // 8 8->7

System.out.println(a); // 7

}

}

-----------------------------------------------------------------------------------------------------

eg:5

-----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(++a); // 7->8 8

System.out.println(++a); // 8->9 9

System.out.println(a++); // 9 9->10

System.out.println(--a); // 10->9 9

System.out.println(++a);// 9->10 10

System.out.println(--a);// 10->9 9

System.out.println(a--);// 9 9->8

System.out.println(a);// 8

}

}

-----------------------------------------------------------------------------------------------------------

eg:6

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); // 7

System.out.println(a++ - a--); // 7 7->8 [8] 8 8->7 o/p-> -1

System.out.println(a); // 7

}

}

--------------------------------------------------------------------------------------------------------------

eg:7

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); // 7

System.out.println(++a + --a - ++a); // (7->8 [8]) (8->7 [7]) (7->8 [8]) op-> 7

System.out.println(a); // 8

}

}

-----------------------------------------------------------------------------------------------------------------

eg:8

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); // 7

System.out.println(--a + --a + a++); // (7->6 [6]) + (6->5 [5]) +([5] 5->6) op-> 16

System.out.println(a); // 6

}

}

-------------------------------------------------------------------------------------------------------------------

eg:9

----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); // 7

System.out.println(--a + --a - ++a + --a - ++a + ++a - ++a - a++ ); op--> -5

System.out.println(a); // 9

}

}

------------------------------------------------------------------------------------------------------------

eg:10

-----

class UnaryOperator

{

public static void main(String[] args)

{

int a = 7;

System.out.println(a); // 7

System.out.println((--a + --a) + (a-- + --a) \* (++a + a++) - (--a + --a));// 68

System.out.println(a); // 3

}

}

-------------------------------------------------------------------------------------------------------------

2.ASSIGNMENT OPERATOR

---------------------

eg:1

----

class AssigmentOperator

{

public static void main(String[] args)

{

int a = 2;

System.out.println(a); // 2

int b = 2;

b+=2; // b = b+2

System.out.println(b); // 4

int c = 3;

c-=3; // c = c-3

System.out.println(c); // 0

int d = 5;

d\*=5; // d = d\*5

System.out.println(d); // 25

int e = 6;

e/=6; // e = e/6

System.out.println(e); // 1 [quotient]

int f = 6;

f%=6; // f = f%6

System.out.println(f); // 0 [remainder]

}

}

-------------------------------------------------------------------------------------------------------------

3. COMPARISION OPERATOR

-----------------------

eg:1

----

ComparisionOperator.java

------------------------

class ComparisionOperator

{

public static void main(String[] args)

{

int a = 10;

int b = 20;

System.out.println(a==b);// false

System.out.println(a!=b);// true

System.out.println(a>b); // false

System.out.println(a<b); // true

System.out.println(a>=b); // false

System.out.println(a<=b); // true

}

}

NOTE: '=' this symbol refers to assignment operator whereas '==' this symbol refers to comparision operator.

------------------------------------------------------------------------------------------------------------------

4.LOGICAL BITWISE OPERATOR:

---------------------------

refer diagram:

eg:1

----

LogicalOperator.java

--------------------

class LogicalOperator

{

public static void main(String[] args)

{

int a = 10;

int b = 2;

int res = a & b;

System.out.println(res); --> 2

int res1 = a | b;

System.out.println(res1); --> 10

int res2 = a ^ b;

System.out.println(res2); --> 8

}

}

----------------------------------------------------------------------------------------------------------------------