

BITWISE OPERATORS

RIGHT SHIFT OPERATER :

The Right Shift Operator moves the bits of a number in a given number of places to the right. The >> sign represents the right shift operator, which is understood as double greater than.

When you type $x \gg n$, you tell the computer to move the bits x to the right n places.

When we shift a number to the right, the least significant bits (rightmost) are deleted, and the sign bit is filled in the most considerable place (leftmost).

Syntax :

Left_operand >> *number*

note : number should be non-negative integer

Illustration :

Calculate the value of $\text{number} \gg 2$ if $\text{number} = 8$.

When the value of a number is shifted to the right two places, the rightmost two bits are lost.

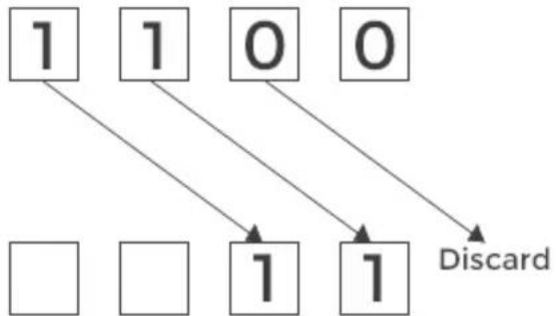
The number has a value of eight. 1000 is the binary representation of the number 8. The following is an example of how to perform the right shift:

In the example above, the binary number 1000 (in decimal 8) becomes 0010 after shifting the bits to the right (in decimal 2)

Example :

Signed

12>>2



Example :

```
class Right
{
    public static void main (String[] args)
    {
        int number = 6;

        System.out.println(number >> 1);
    }
}
```

Left Shift Operator :

Left shift operator shifts all of the bits in a value to the left a specified number of times.

That is, the << (left shift operator) moves all of the in the specified value to the left the number of bitpositions specified by the number.

Syntax :

Left_operand << number

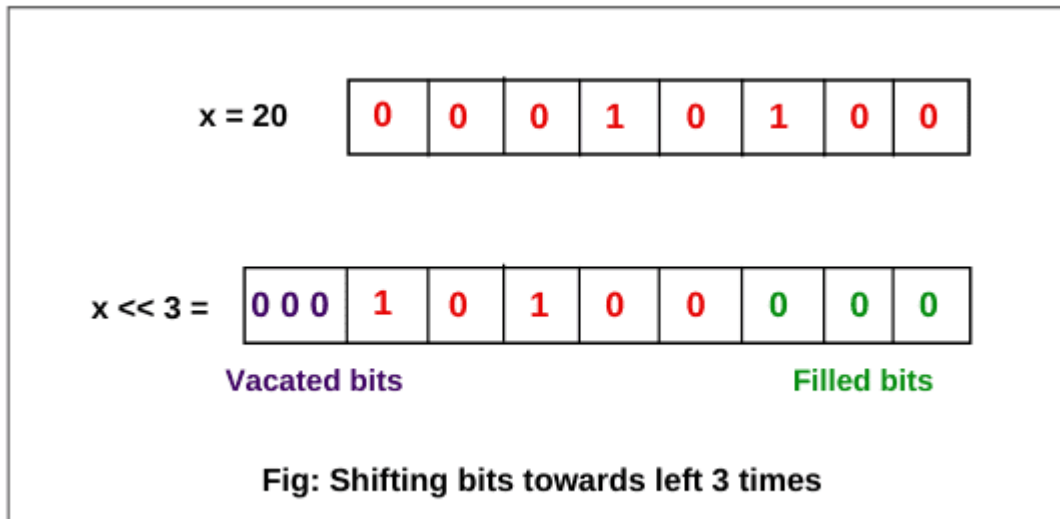
note : number should be non-negative integer

Illustration :

Calculating the value of $\text{number} \ll 2$ if $\text{number}=2$. When the value of a number is shifted to the left two places, the leftmost two bits are lost.

The number has a value of two. 0010 is the binary representation of the number 2. In the following example, the method for doing a left shift is explained:

In the below example below, the binary number 0010 (in decimal 2) becomes 1000 after shifting the bits to the left (in decimal 8)



Example :

```
class Left {  
  
    public static void main(String[] args)  
    {  
        int number = 2;  
  
        System.out.println( number << 2);  
    }  
}
```

8

Output

8