Assignment-2

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Topic : Bitwise Not/Complement(~), Bitwise Or(|) & Big integer

Bitwise Complement Operator (~)

Bitwise complement operator is denoted by (~). It is a Unary operator which works on one operand. It takes one number and inverts all bits of its.when bitwise operator is applied on bits then all 1's become 0's and all 0's become 1's.

For example,

Binary form of 2 ---------- 0010
Complement of 2 ----------1101 (Decimal value 13)

But it gives the output as 3 because compiler runs 2's complement of the value.

Calculate 2's complement of 2 is

Binary form of 3 = 0011
1's complement of 3 = 1100
Adding 1 to 1's complement of 3 = 1100+1
2's complement of 3 = 1101

The output of the ~2 is -3.

Write a java using bitwise complement operator?

```
class complement
{
        public static void main(String []args)
        {
                int a=2;
                System.out.println("Bitwise complement of 2 is " + ~a);
        }
}
```

Output:

```
C:\Users\ANUSHA KASTHURI\OneDrive\Desktop\Java at Kodnest>javac complement.java

C:\Users\ANUSHA KASTHURI\OneDrive\Desktop\Java at Kodnest>java complement
Bitwise complement of 2 is -3
```

Bitwise OR operator (|)

It is denoted by (|) & pronounced as a pipe. It takes two operands to perform bitwise OR operator. One of the bit is 1, it gives 1 else 0.

Example

a=5 0101 (Binary)
b=7 0111 (Binary)

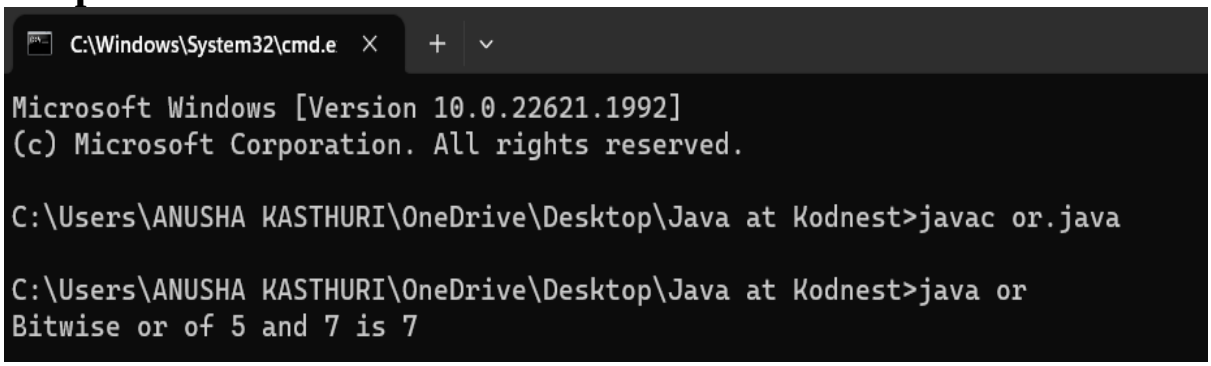
Bitwise OR of 5 and 7 is

```
0101
0111
-------
0111   =   7 (Decimal)
```

Write a java program using Bitwise Or operator?

```
class or
{
public static void main(String []args)
{
        int a=5;
        int b=7;
        System.out.println("Bitwise or of 5 and 7 is " + (a|b));
}
}
```

Output:



Big Integer

Big integer is a class library that is built to handle calculations involving very large integers. It is designed to handle calculations that a normal primitive integer data type cannot handle. There are so many methods in big integer class.

To use big integer we have to import java.math package in that we have to import java.math.BigInteger.

Reprensentation of Big integer data type is

BigInteger A;