

## Practical 15

**Aim : Write the bin2Dec (string binary String) method to convert a binary string into a decimal number. Implement the bin2Dec method to throw a NumberFormatException if the string is not a binary string.**

**Code :**

```
import java.util.*;

class Practical15
{
    public static int bin2Dec(String binaryString) throws NumberFormatException
    {
        if(!isBinNumber(binaryString)){
            throw new NumberFormatException("This is not a binary number");
        }

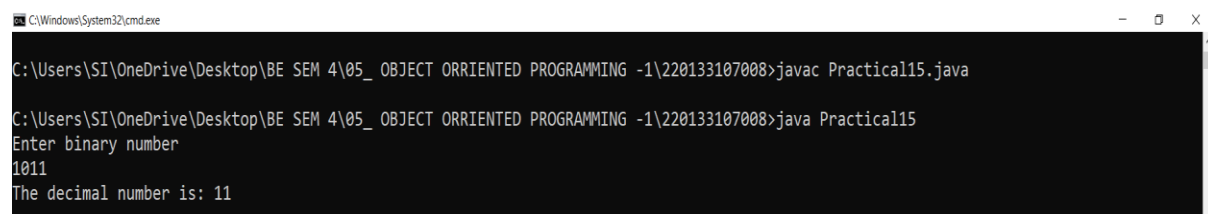
        int power = 0;
        int decimal= 0;

        for(int i=binaryString.length()-1;i>=0;i--)
        {
            if (binaryString.charAt(i)=='1'){
                decimal += Math.pow(2, power);
            }
            power++;
        }
        return decimal;
    }

    public static boolean isBinNumber(String binary)
```

```
{  
    for(char ch: binary.toCharArray())  
    {  
        if(ch!='1' && ch!='0')  
            return false;  
    }  
    return true;  
}  
  
public static void main(String args[])  
{  
    Scanner input = new Scanner(System.in);  
    System.out.println("Enter binary number");  
  
    try{  
        String n = input.nextLine();  
        System.out.println("The decimal number is: "+bin2Dec(n));  
    }  
  
    catch(NumberFormatException e)  
    {  
        System.out.println(e.getMessage());  
    }  
}
```

## Output :



```
C:\Windows\System32\cmd.exe  
C:\Users\SI\OneDrive\Desktop\BE SEM 4\05_ OBJECT ORRIENTED PROGRAMMING -1\220133107008>javac Practical15.java  
C:\Users\SI\OneDrive\Desktop\BE SEM 4\05_ OBJECT ORRIENTED PROGRAMMING -1\220133107008>java Practical15  
Enter binary number  
1011  
The decimal number is: 11
```