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 :