

Question 6: Write a program to accept a natural within 4000(decimal number), convert and print its Roman equivalent.

Solution :

```
import java.io.*;
class Dec2Roman_Method1
{
    public static void main(String args[]) throws IOException
    {
        BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
        System.out.print("Enter a Number : ");
        int num=Integer.parseInt(br.readLine()); //accepting decimal number

        if(num>0 && num<4000) //checking whether the number entered is within the range
            [1-3999]
        {
```

```
            /*Saving the Roman equivalent of the thousand, hundred, ten and units place of a decimal number*/
```

```
            String thou[]={"","M","MM","MMM"};
            String hund[]={"","C","CC","CCC","CD","D","DC","DCC","DCCC","CM"};
            String ten[]={"","X","XX","XXX","XL","L","LX","LXX","LXXX","XC"};
            String unit[]={"","I","II","III","IV","V","VI","VII","VIII","IX"};
```

```
            /*Finding the digits in the thousand, hundred, ten and units place*/
```

```
            int th=num/1000;
            int h=(num/100)%10;
            int t=(num/10)%10;
            int u=num%10;
```

```
            /*Displaying equivalent roman number*/
```

```
            System.out.println("Roman Equivalent= "+thou[th]+hund[h]+ten[t]+unit[u]);
```

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```

    }

    /*Displaying an error message if the number entered is out of range*/
    else
    System.out.println("\nYou entered a number out of Range.nPlease enter a number in the range
[1-3999]");
}
}

```

Question 7: Write a program to input a natural number less than 10000 and then print/output it in words.

Sample input: 29	Sample output: TWENTY NINE
Sample Input: 17	Sample output: SEVENTEEN
Sample input: 119	Sample output: ONE HUNDRED NINETEEN
Sample input: 9999	Sample output: NINE THOUSAND NINE HUNDRED NINETY NINE

Solution:

```

import java.util.*;
class Number_to_Words
{
    public static void main()
    {
        Scanner sc=new Scanner(System.in);
        int i,n,nl,len,num=0;
        int a[]=new int[4];
        String
word[]={ "ONE","TWO","THREE","FOUR","FIVE","SIX","SEVEN","EIGHT","NINE","TEN"
,
"ELEVEN","TWELVE","THIRTEEN","FOURTEEN","FIFTEEN","SIXTEEN","SEVENTEEN
","EIGHTEEN",
"NINETEEN","TWENTY","THIRTY","FORTY","FIFTY","SIXTY","SEVENTY","EIGHTY",
"NINETY",
"HUNDRED","THOUSAND"};
        System.out.println("Enter a natural number less than 10000 :");
        n=sc.nextInt();
        nl=n;i=4;len=0;
        while(nl>0)
        {
            a[--i]=nl%10;
            nl=nl/10;
        }

        while(i!=0)
        {
            a[--i]=0;

```

```

    }

    if(a[0]!=0)
    {
        System.out.print(word[a[0]-1]+" "+word[28]+" ");
    }

    if(a[1]!=0)
    {
        System.out.print(word[a[1]-1]+" "+word[27]+" ");
    }

    if(a[2]!=0)
    {
        if(a[2]>=2)
        {
            System.out.print(word[a[2]+17]+" ");
            if(a[3]!=0)
                System.out.println(word[a[3]-1]);
        }

        if(a[2]==1)
        {
            System.out.print(word[a[3]+9]);
        }
    }

    else
    {
        if(a[2]==0 && a[3]!=0)
            System.out.print(word[a[3]-1]);
    }
}
}

```