

**Question 4:** Design a program to accept a day number between(1 to 366), year (in 4 digits) from the user to generate and display the corresponding date. The program further accepts 'n' ( $1 \leq n \leq 100$ ) from the user to compute and display the future date corresponding to 'n' days after the generated date. Display an error message if the value of the day number, year and 'n' are not within the limit or not according to the condition specified.

Sample Input:

Day number : 233

Year : 2008

Days after(n): 17

Sample output :

20<sup>th</sup>. August 2008

Days after 17 days : 6<sup>th</sup> September 2008

Sample Input:

Day number : 360

Year : 2008

Days after(n) : 45

Sample output :

25<sup>th</sup> December 2008

Days after 45 days : 8<sup>th</sup> February 2009

**Solution:**

```
import java.util.*;
```

```
class Date_3
```

```
{
```

```
    public static void main()
```

```
    {
```

```
        Scanner sc=new Scanner(System.in);
```

```
        int yr,day,i,n=0,m=0,d=0,r,yy,dm,mn,q,c,df;
```

```
        String temp;
```

```
        int dom[]={0,31,28,31,30,31,30,31,31,30,31,30,31};
```

```
        String month[]={ "", "January", "February", "March", "April", "May", "June", "July", "August",
```

```
            "September", "October", "November", "December"};
```

```
        System.out.println("Enter day number between 1 to 366");
```

```
23 day=sc.nextInt();
```

```
        if(day>=1 && day<=366)
```

```
        {
```

```
            System.out.println("Valid day number");
```

```
            System.out.println("Enter year:");
```

```
            yr=sc.nextInt();
```

```
            System.out.println("Enter day after which future date to be generated:");
```

```
17 df=sc.nextInt();
```

```
            if(yr%4==0)
```

```
                dom[2]=29;
```

```
            else
```

```
                dom[2]=28;
```

```
            for(i=1;i<=12;i++)
```

```
            {
```

```
                d=d+dom[i];
```

```
                if(d>day)
```

```
                {
```

```
                    n=i;
```

```
                    break;
```

```
                }
```

```
            }
```

```
            d=0;
```

```
            for(i=1;i<n;i++)
```

```
            {
```

```
                d=d+dom[i];
```

```
            }
```

```
            day=day-d;
```

```
            r=day%10;
```

```
            yy=
```

```
            dm=
```

```
            mn=
```

```
            q=
```

```
            c=
```

```
            df=
```

Handwritten calculation:  $31 + 29 + 31 + 30 + 31 + 30 + 31 + 31 = 244$   
 $244 - 31 = 213$

Handwritten note:  $n = i = 8$

Handwritten note:  $213$

Handwritten calculation:  $233 - 213 = 20$

Handwritten calculation:  $20 \div 10 = 2$

```

if(r==1)
    temp="st.";
else if(r==2)
    temp="nd.";
else if(r==3)
    temp="rd.";
else
    temp="th.";
System.out.println("The desired output:");
if(day==0)
{
    if(dom[n-1]==30)
        temp="th.";
    else
        temp="st.";
    System.out.println(dom[n-1]+temp+" "+month[n-1]+" "+yr);
    dm=dom[n-1];
    mn=n-1;
}
else
{
    System.out.println(day+temp+" "+month[n]+" "+yr);
    20 dm=day;
    8 mn=n;
}

```

yy=yr;c=0; //to find future date

while(c<df)

{  
c++;  
dm++;

if(dm>dom[mn])

{  
dm=1;

mn++;

}

if(mn>12)

{

mn=1;yy++;

if(yy%4==0)

dom[2]=29;

else

dom[2]=28;

}

20 8  
20 th Aug 2008  
c=0 c=1 c=2 c=3 c=4 c=5 c=6 c=7 c=8 c=9 c=10 c=11  
1 21 22 23 24 25 26 27 28 29 30 31 32  
c=12 c=13 c=14 c=15 c=16 c=17  
dm=1 2 3 4 5 6  
21 > 31/30 → 32 > 31  
→ 9.



```

}
q=dm%10;
if(q==1)
    temp="st.";
else if(q==2)
    temp="nd.";
else if(q==3)
    temp="rd.";
else
    temp="th.";
System.out.println("The future date after"+df+" days");
System.out.println(dm+temp+" "+month[mn]+" "+yy);
System.out.println("The program ends...");
}
else
{
    System.out.println("Invalid day number:");
    System.out.println("Please Re-enter the correct day number:");
}
}
}

```

6%10  
10)6(0  
6

6<sup>th</sup>

17

2008

6<sup>th</sup> Sept 2008