```
      /*
      P2: Design, develop, code and run the program in any suitable language to
      implement the NextDate function. Analyze it from the perspective of equivalence
      class value testing,derive different test cases, execute these test cases and
      discuss the test results..
      */

      #include <stdio.h>
      #include <stdlib.h>

11    int main()
12    {
13        int day,month,year;
14        int tmday=0,tmmonth=0,tmyear=0;
15        int c1=0,c2=0,c3=0;
16
17        printf("enter todays date in the form of mm/dd/yyyy\n");
18        scanf("%d/%d/%d",&month,&day,&year);
19
20        tmmonth=month;
21        tmday=day;
22        tmyear=year;
23
24        if(day>=1&&day<=31)
25            c1=1;
26        if(month>=1&&month<=12)
27            c2=1;
28        if(year>=1823&&year<=2023)
29            c3=1;
30
31        if(c1&&c2&&c3)
32        {
33            switch(month)
34            {
35            case 1:
36            case 3:
37            case 5:
38            case 7:
39            case 8:
40            case 10: if(day<31)              //less than 31 days
41                    tmday=day+1;
42                    else                     //if 31st day
43                    {
44                      tmday=1;
45                      tmmonth=month+1;
46                    }
47                    break;
48
49                    case 4:
50                    case 6:
51                    case 9:
52                    case 11:if(day<30)              //less than 30 days
53                            tmday=day+1;
54                        else
55                        {
56                            if(day==30)            //if 30th day
57                            {
58                            tmday=1;
59                            tmmonth=month+1;
60                            }
61                            else
62                                printf("invalid input\n");
63                        }
64                        break;
65
66                case 12:if(day<31)
```

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67                              tmday=day+1;
68                          else                        //if 31st day
69                          {
70                              tmday=1;
71                              tmmonth=1;
72                          }
73
74                  if(year==2023)
75                      printf("invalid input\n");
76                  else
77                      tmyear=year+1;              //anything less than 2023
78                  break;
79
80                  case 2:if(day<28)              //less than 28
81                          tmday=day+1;
82                      else
83                      {
84                       if(day==28)                    //if 28th day
85                       {
86                          if(year%4==0)           //check for leap year
87                              tmday=29;
88                          else                    //if not leap year
89                          {
90                              tmday=1;
91                              tmmonth=3;
92                          }
93                       }
94
95                       else
96                       {
97                          if(day==29)             //if in leap year
98                          {
99                              if(year%4==0)
100                             {
101                                 tmday=1;
102                                 tmmonth=3;
103                             }
104                             else
105                             {
106                                 if(day>29)
107                                 printf("invalid input\n");
108                             }
109                         }
110                         else
111                         printf("invalid input\n");
112                      }
113                     }
114                  break;
115
116                  default:printf("invalid input\n");
117                  break;
118      }
119      printf("next date is %d/%d/%d",tmmonth,tmday,tmyear);
120  }
121  else
122      printf("date out of range");
123      return 0;
124 }
125
```