# Diffchecker

## 11  2

```
1   #include <stdio.h>
2
3   typedef enum {false, true} bool;
```
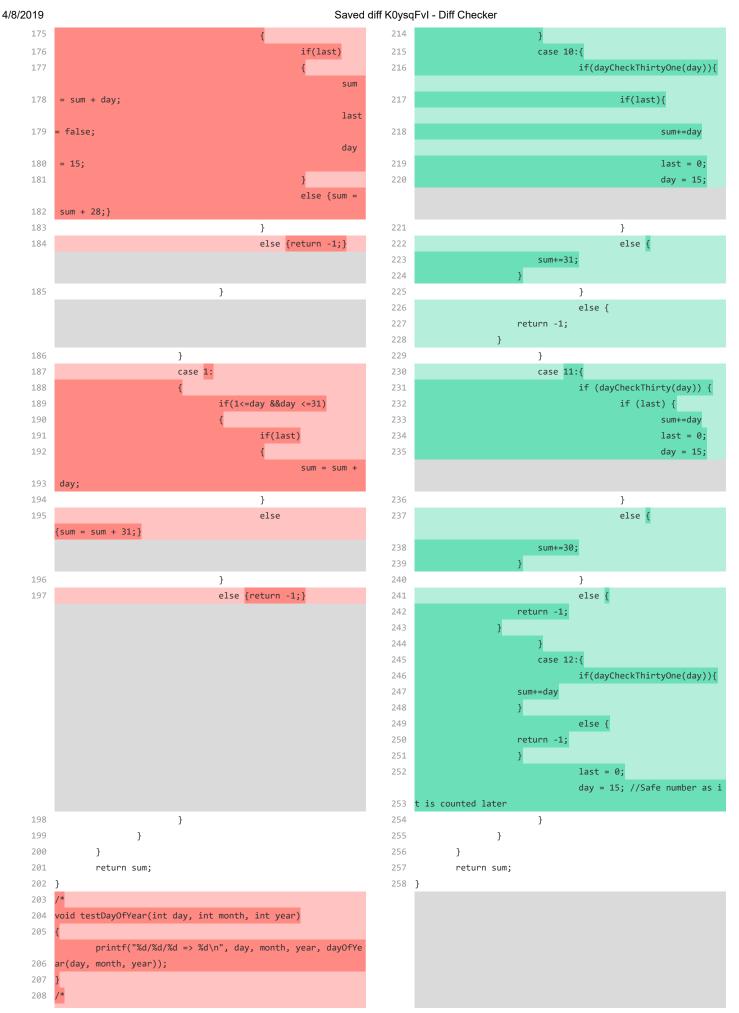
```
1   #include <stdio.h>
2
3   typedef int bool;
4   #define true 1
5   #define false 0
6   const int num = 200
7
8   bool isLeapYear(int year){
9       if(year%(num*2) == 0) {
10          return 1;
11      }
12      else if(year%(num/2) == 0){
13          return 0;
14      }
15      else if(year%(num*0.02) == 0){
16          return 1;
17      }
18      else {
19          return 0;
20      }
21  }
22
23  bool dayCheckThirtyOne(int d){
24      if (1<=day && day<=31) {
25          return 1
26      }
27      else {
28          return 0
29      }
30  }
31
32  bool dayCheckThirty(int d){
33      if (1<=day && day<=30) {
34          return 1
35      }
36      else {
37          return 0
38      }
39  }
40
41  bool dayCheckMonth(int m){
42      if (1<=month && month<=12) {
43          return 1
44      }
45      else {
46          return 0
47      }
48  }
49
50  void test(int day, int month, int year)
51  {
52
```

```
4
5   bool leap(int year)
6   {
7           if(year%400 == 0){return true;}
```

```
                printf("\n", day, month, year, dayinYear(day, month,
        year));
```

```
 8          else if(year%100 == 0){return false;}
 9          else if(year%4 == 0){return true;}
10          else {return false;}
11  }
12
13  int dayOfYear(int day, int month, int year)
14  {
15          int sum = 0;
16          bool last = true;
17          if (year < 1753) {return -1;}
18          else if (!(1<=month && month<=12)) {return -1;}
19          else
20          {
21                  switch(month)
22                  {
23                          case 12:
24                          {
25                                  if(1<=day && day<=31){sum =
    sum + day;}
26                                  else {return -1;}
27                                  last = false;
28                                  day = 15;  //Safe number as i
    t is counted later
29                          }
30                          case 11:
31                          {
32                                  if(1<= day && day <=30)
33                                  {
34                                          if(last)
35                                          {
36                                                  sum = sum +
    day;
37                                                  last = fals
    e;
38                                                  day = 15;
39                                          }
40                                          else
    {sum = sum + 30;}
41                                  }
42                                  else {return -1;}
43                          }
44                          case 10:
45                          {
46                                  if(1<=day && day<=31)
47                                  {
48                                          if(last)
49                                          {
50                                                  sum = sum +
    day;
51                                                  last = fals
    e;
52                                                  day = 15;
```

```
53  }
54
55  int dayinYear(int day, int month, int year){
56          int sum = 0;
57          bool last = 1;
58          if (year < 1753) {
59          return -1;
60          }
61          else if (!dayCheckMonth(month)) {
62          return -1;
63          }
64          else{
65                  switch(month){
66                          case 1:{
67                                  if(dayCheckThirtyOne(day)) {
68                                          if(last) {
69                                                  sum+=day
70                                          }
71                                          else {
72                                                  sum+=31;
73                                          }
74                                  }
75                                  else {
76                                          return -1;
77                                  }
78                          }
79                          case 2: {
80                                  if(isLeapYear(year)) {
81                                          if(1<=day && day<=2
    9){
82                                                  if(last){
83                                                          sum+
    =day
84                                                          last
    = 0;
85                                                          day
    = 15;
86                                                  }
87                                                  else {
```

```
53                    }
54                         else
     {sum = sum + 31;}

55                    }
56                    else {return -1;}
57               }
58               case 9:
59               {
60                    if(1<=day && day<=30)
61                    {
62                         if(last)
63                         {
64                              sum = sum +
 day;
                              last = fals
e;
66                              day = 15;
67                         }
68                         else
{sum = sum + 30;}

69                    }
70                    else {return -1;}
71               }
72               case 8:
73               {
74                    if(1<=day && day<=31)
75                    {
76                         if(last)
77                         {
78                              sum = sum +
 day;
79                              last =
false;
80                              day = 15;
81                         }
82                         else
{sum = sum + 31;}

83                    }
84                    else  {return -1;}
85               }
86               case 7:
87               {
88                    if(1<= day && day<=31)
89                    {
90                         if(last)
91                         {
92
```

```
89                         sum+=29;
90                    }
91                    }
92                    else {
93                    return -1;
94                    }
95               }
96               else {
97                    if(1<=day && day<=2
8) {
98                         if(last) {
                                   sum+
=day
                                   last
= 0;
                                   day
  = 15;
102                        }
103                        else {
104                        sum+=28;
105                        }
106                    }
107                    else {
108                    return -1;
109                    }
110               }
111          }
112          case 3:{
113               if(dayCheckThirtyOne(day)){
114                    if(last){
115                         sum+=day
116                         last = 0;
117                         day = 15;
118                    }
119                    else {
120                    sum+=31;
121                    }
122               }
123               else {
124                    return -1;
125               }
126          }
127          case 4:{
128               if(dayCheckThirty(day)){
129                    if(last){
130                         sum+=day
131                         last = 0;
```

```
                                    sum = sum +
    day;
93                                  last =
false;
94                                  day = 15;
95                              }
96                              else
{sum = sum + 31;}

97                          }
98                          else {return -1;}

99                      }
100                     case 6:
101                     {
102                         if(1<=day && day<=30)
103                         {
104                             if(last)
105                             {
                                    sum = sum +
106  day;
107                                 last =
false;
108                                 day = 15;
109                             }
110                             else
{sum =  sum + 30;}
111                         }
112                         else {return -1;}
113                     }
114                     case 5:
115                     {
116                         if(1<=day && day <=31)
117                         {
118                             if(last)
119                             {
                                    sum = sum +
120  day;
121                                 last =
false;
122                                 day = 15;
123                             }
124                             else {sum = sum +
31;}

125                         }
126                         else {return -1;}

127                     }
128                     case 4:
129                     {
130                         if(1<= day && day <=30)
131                         {
132                             if(last)
133                             {
                                    sum = sum +
134  day;
```

```
132                                 day = 15;
133                             }
134                             else {
135                                 sum+=30;
136                             }
137                         }
138                         else {
139                             return -1;
140                         }
141                     }
142                     case 5: {
143                         if(dayCheckThirtyOne(day))

144                         {
145                             if(last)
146                             {

147                                 sum+=day
148                                 last = 0;
149                                 day = 15;
150                             }
151                             else {sum+=31;}
152                         }
153                         else {return -1;}
154                     }
155                     case 6:{
156                         if(dayCheckThirty(day)){
157                             if(last){
158                                 sum+=day
159                                 last = 0;

160                                 day = 15;
161                             }
162                             else {

163                                 sum =  sum + 30;
164                             }
165                         }
166                         else {
167                             return -1;
168                         }
169                     }
170                     case 7:{
171                         if(dayCheckThirtyOne(day)){
172                             if(last){
173                                 sum+=day
174                                 last = 0;
```

```
135                                          last =
false;
136                                    day = 15;
137                              }
138                              else
{sum = sum + 30;}

139                        }
140                        else {return -1;}

141                  }
142                  case 3:
143                  {
144                        if(1<=day && day <=31)
145                        {
146                              if(last)
147                              {
148  day;                              sum = sum +
149                                    last =
false;
150                                    day = 15;
151                              }
152                              else
{sum = sum + 31;}

153                        }
154                        else {return -1;}

155                  }
156                  case 2:
157                  {
158                        if(leap(year))
159                        {
160  9)                            if(1<=day && day<=2
161                              {
162                                    if(last)
163                                    {
164  = sum + day;                              sum

165  = false;                              last

166  = 15;                              day

167                                    }
168  sum + 29;}                        else {sum =
169                        }
170                        else {return -1;}

171                  }
172                  else
173                  {
174  8)                            if(1<=day && day<=2
```

```
175                                    day = 15;
176                              }
177                              else {
178                                    sum+=31;
179                              }
180                        }
181                        else {
182                              return -1;
183                        }
184                  }
185                  case 8:{
186                        if(dayCheckThirtyOne(day)){
187                              if(last){
188                                    sum+=day
189                                    last = 0;



190                                    day = 15;
191                              }
192                              else {
193                                    sum+=31;
194                              }
195                        }
196                        else {
197                              return -1;
198                        }
199                  }
200                  case 9:{
201                        if(dayCheckThirty(day)){
202                              if(last){
203                                    sum+=day
204                                    last = 0;
205                                    day = 15;








206                        }
207                              else {
208                                    sum+=30;
209                              }
210                        }
211                        else {
212                              return -1;
213                        }
```

```
175                                        {
176                                            if(last)
177                                            {
178     sum = sum + day;
179     last = false;
180     day = 15;
181                                            }
182                                            else {sum = sum + 28;}
183                             }
184                             else {return -1;}
185                     }
186             }
187             case 1:
188             {
189                     if(1<=day &&day <=31)
190                     {
191                         if(last)
192                         {
193     sum = sum + day;
194                     }
195                         else {sum = sum + 31;}
196                     }
197                     else {return -1;}
198             }
199             }
200             }
201     return sum;
202 }
203 /*
204 void testDayOfYear(int day, int month, int year)
205 {
206         printf("%d/%d/%d => %d\n", day, month, year, dayOfYear(day, month, year));
207 }
208 /*
```

```
214                     }
215                     case 10:{
216                         if(dayCheckThirtyOne(day)){
217                             if(last){
218                                 sum+=day
219                                 last = 0;
220                                 day = 15;
221                     }
222                         else {
223             sum+=31;
224                     }
225                     }
226                         else {
227             return -1;
228                     }
229                     }
230                     case 11:{
231                         if (dayCheckThirty(day)) {
232                             if (last) {
233                                 sum+=day
234                                 last = 0;
235                                 day = 15;
236                     }
237                         else {
238             sum+=30;
239                     }
240                     }
241                         else {
242             return -1;
243                     }
244                     }
245                     case 12:{
246                         if(dayCheckThirtyOne(day)){
247             sum+=day
248                     }
249                         else {
250             return -1;
251                     }
252                             last = 0;
253                             day = 15; //Safe number as it is counted later
254                     }
255             }
256         }
257     return sum;
258 }
```

```
209  int main (void)
210  {
211          testDayOfYear(1, 1, 2008);
212          testDayOfYear(29, 2, 2008);
213          testDayOfYear(29, 2, 2009);
214          testDayOfYear(26, 9, 2008);
215          testDayOfYear(31, 12, 2008);
216          testDayOfYear(31, 12, 2009);
217          testDayOfYear(100, 1, 2009);
218          testDayOfYear(1, 100, 2008);
219          testDayOfYear(1, 1, 100);
220  }
221  */
```