```cpp
1   //
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4   // C/C++ Programming III : Intermediate Programming with Objects
5   // 151116  Raymond L.Mitchell III
6   // hw1.cpp
7   // Win10
8   // Visual C++ 19.0
9   //
10  // File contains the Date class definition, and a test suite of its member
11  // functions
12  //
13
14  #include <iostream>
15  using std::cout;
16  using std::cerr;
17
18  const int defaultMonth = 1;
19
20  class Date
21  {
22      int month, day, year;
23
24  public:
25
26      // Constructor
27      Date(int month, int day, int year)
28      {
29          setMonth(month); setDay(day); setYear(year);
30      }
31
32      void setMonth(int month)
33      {
34          // Check if input is valid
35          // Error Case
36          if ((month < 1) || (month > 12))
37          {
38              this->month = defaultMonth; // Default Value
39              cerr << "\nERROR: INVALID MONTH VALUE, setting month to "
40                  << defaultMonth << "\n";
41          }
42          // Valid inputs
43          else
44              this->month = month;
45      }
46
47      int getMonth()
48      {
49          return(this->month);
50      }
51
52      void setDay(int day)
```
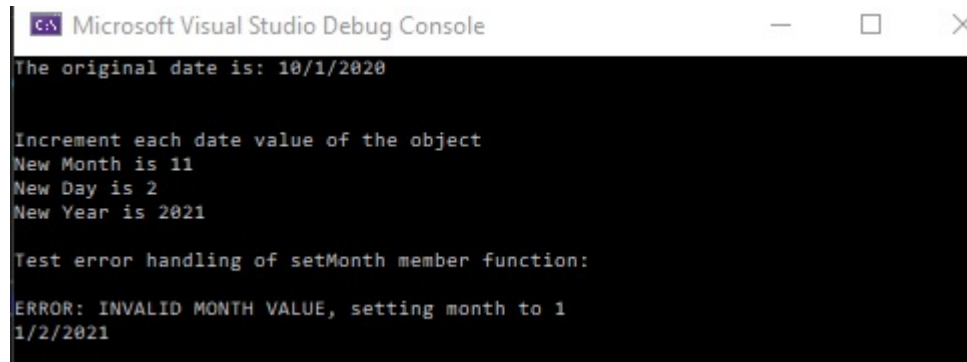
```cpp
53      {
54          this->day = day;
55      }
56
57      int getDay()
58      {
59          return(this->day);
60      }
61      void setYear(int year)
62      {
63          this->year = year;
64      }
65
66      int getYear()
67      {
68          return(this->year);
69      }
70
71      // Print Date in "standard" US calendar format
72      void display()
73      {
74          cout << getMonth() << "/" << getDay() << "/" << getYear() << "\n";
75      }
76  };
77
78  int main()
79  {
80      // declare original date variables
81      int month = 10, day = 1, year = 2020;
82
83      Date testDate(month, day, year);
84
85      // exercise all of Date's public functions
86
87      //exercising the display function
88      cout << "The original date is: ";
89      testDate.display();
90
91      // exercising all of the set functions
92      cout << "\n \nIncrement each date value of the object\n";
93      testDate.setDay(++day);
94      testDate.setMonth(++month);
95      testDate.setYear(++year);
96
97      // exercising all of the get functions
98      cout << "New Month is " << testDate.getMonth() << "\n"
99          << "New Day is " << testDate.getDay() << "\n"
100         << "New Year is " << testDate.getYear() << "\n";
101
102     // testing setMonth error handling;
103     cout << "\nTest error handling of setMonth member function:\n";
104     testDate.setMonth(year);
```

```
105        testDate.display();
106    }
107
```

The original date is: 10/1/2020

Increment each date value of the object
New Month is 11
New Day is 2
New Year is 2021

Test error handling of setMonth member function:

ERROR: INVALID MONTH VALUE, setting month to 1
1/2/2021