```cpp
/*****************************************************************************
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 * Lab #1           : Vectors
 * CLASS            : CS1D
 * SECTION          : MW - 2:30p
 * DUE DATE         : 01 / 13 / 20
 *****************************************************************************/
#include "main.h"


int main()
{

    /*
     * HEADER OUTPUT
     */
    PrintHeader(cout, "Prompt.txt");

    /*****************************************************************/


    srand(time(NULL));
    vector<int> intVect(15);
    vector<int> revVect(15);
    vector<int> sumVect(15);

    // Part A and B
    cout << " ** Populating with random  numbers" << endl << endl;
    for (int i = 0; i < 15; i++)
    {
        intVect.at(i) = (rand() % 900 + 100);
    }



    //Part C
    cout << " ** Sorting vectors" << endl << endl;
    sort(intVect.begin(), intVect.end());



    //Part D and E
    cout << " ** Reversing digits and storing in new vector" << endl << endl;

    string reverse;
    char temp;
    for (int i = 0; i < 15; i++)
    {
        reverse = to_string(intVect[i]);
        temp = reverse[0];
        reverse[0] = reverse[2];
        reverse[2] = temp;
```

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53          revVect[i] = stoi(reverse);
54      }
55
56
57
58      //Part F and G
59      cout << " ** Summing the digits and storing in new vector" << endl << endl;
60
61      int mod;
62      int num;
63      int sum;
64      for (int i = 0; i < 15; i++)
65      {
66          sum = 0;  num = intVect[i];
67          while (num > 0)
68          {
69              mod = num % 10;
70              sum = sum + mod;
71              num = num / 10;
72          }
73          sumVect[i] = sum;
74      } string output;
75
76
77
78      //Part H
79
80      cout << left << setw(10) << "Original" << setw(10) << "Reversed" << endl;
81      for (int i = 0; i < 15; i++)
82      {
83          cout << left << setw(10) << intVect[i];
84          if (revVect[i] < 100)
85          {
86              if (revVect[i] < 10)
87              {
88                  output = string("00" + to_string(revVect[i]));
89                  cout << left << setw(10) << output;
90              }
91              else
92              {
93                  output = string("0" + to_string(revVect[i]));
94                  cout << left << setw(10) << output;
95              }
96          }
97          else
98          {
99              cout << left << setw(10) << revVect[i];
100         }
101
102         cout << "Sum of the digits of " << intVect[i] << " is " << sumVect[i] <<  ↵
              endl;
103     }
```

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104
105     system("pause");
106     return 0;
107 }
108
```