```cpp
//  Attached:   HW_2a, HW_2b, HW_2c, HW_2d
//
// ============================================================
//  File:   HW_2d
// ============================================================
//   Programmer:   Stephen Moye
//   Class:        CMPR 121 Tuesday
//   Instructor:   Dennis Rainey
//
//   Description:
//   This program will ask the user
//   to enter an ID number to be searched,
//   then search the array to determine
//   whether the ID is in it
//
// ============================================================

#include <iostream>

using namespace std;

const int SIZE = 5;

int getId();
void searchId(int, int[SIZE]);

// ================================================================================
// main
// ================================================================================
int main()
{

    int idNumbers[SIZE]{ 12345, 54321, 11223, 33211, 44411 };

    int idInput = getId();
    searchId(idInput, idNumbers);

    return 0;
}
// ================================================================================
// end of main
// ================================================================================ ↵


//  ================================================================================
//  getId
//  ================================================================================
//  this function asks the user to enter an ID to be searched
//
//  Input:
```

```
52  //      none
53  //  Output:
54  //      The input results are returned to main
55  //  ========================================================================
56  int getId()
57  {
58      int idInput;
59      cout << "Please enter an ID to be searched: ";
60      cin >> idInput;
61
62      return idInput;
63  }
64  //  ========================================================================
65  //  end of getId
66  //  ========================================================================
67
68
69
70  //  ========================================================================
71  //  searchId
72  //  ========================================================================
73  //  this function takes the idInput passed from main
74  //  and loops through each item in the idNumbers array
75  //  comparing it to idInput to search for a match
76  //
77  //  Input:
78  //      idInput, the ID from user input
79  //      idNumbers, an array, the list of IDs to search against
80  //  Output:
81  //      If ID is found, a message is output with the array location
82  //      If not found, a message informs the user the ID is not in the array
83  //  ========================================================================
84  void searchId(int idInput, int idNumbers[SIZE])
85  {
86      bool idFound;
87      int searchItem = 0;
88
89      while (searchItem <= SIZE)
90      {
91          if (idInput == idNumbers[searchItem])
92          {
93              idFound = true;
94              cout << "Your ID " << idInput << " is located at position " <<
                    searchItem + 1 << " in the array." << endl;
95              break;
96          }
97          else
98          {
99              idFound = false;
100             searchItem++;
101         }
102     }
```

```
103
104     if (idFound == false)
105     {
106         cout << "Your ID is not in the list." << endl;
107     }
108 }
109 //  ============================================================================
110 //  end of searchId
111 //  ============================================================================
112
113
114
115 /* ================================= Output 1 ================================
116 Please enter an ID to be searched: 12345
117 Your ID 12345 is located at position 1 in the array.
118
119 C:\Users\Steve\Desktop\School\Computer Science\CMPR121\Homework\HW_2\HW_2d\Debug
      \HW_2d.exe (process 32864) exited with code 0.
120 To automatically close the console when debugging stops, enable Tools->Options-
      >Debugging->Automatically close the console when debugging stops.
121 Press any key to close this window . . .
122 ============================================================================
123
124 /* ================================= Output 2 ================================
125 Please enter an ID to be searched: 44411
126 Your ID 44411 is located at position 5 in the array.
127
128 C:\Users\Steve\Desktop\School\Computer Science\CMPR121\Homework\HW_2\HW_2d\Debug
      \HW_2d.exe (process 32864) exited with code 0.
129 To automatically close the console when debugging stops, enable Tools->Options-
      >Debugging->Automatically close the console when debugging stops.
130 Press any key to close this window . . .
131 ============================================================================ */
132
133 /* ================================= Output 3 ================================
134 Please enter an ID to be searched: 42069
135 Your ID is not in the list.
136
137 C:\Users\Steve\Desktop\School\Computer Science\CMPR121\Homework\HW_2\HW_2d\Debug
      \HW_2d.exe (process 32864) exited with code 0.
138 To automatically close the console when debugging stops, enable Tools->Options-
      >Debugging->Automatically close the console when debugging stops.
139 Press any key to close this window . . .
140 ============================================================================ */
```