```
1 #include <iostream>
 2 #include <string>
 3 #include <vector>
 4 #include <sstream>
 6 using namespace std;
 7
 8 void display(std::vector<int>::iterator, std::vector<int>::iterator);
 9 void interDisplay(std::vector<int>&, std::vector<int>&);
10 bool createSet(const std::string&, std::vector<int>&, std::vector <int>&);
11
12
13
14 // The main function is the same as the previous assignment
15 // without the sorting of the 2 datasets.
16
17 int main() {
18
       std::string input;
19
       std::vector<int> SetA, SetB;
20
       std::getline(cin, input);
21
       if (createSet(input, SetA, SetB)) {
22
23
           interDisplay(SetA, SetB);
       }
24
25
       else
26
           std::cout << "Error" << std::endl;</pre>
27
       return 0;
28 }
29
30
31
   32
33
34
35
36 // This function is also unchanged
37
38 bool createSet(const string & input, vector<int> & SetA, vector <int> & SetB) {
39
       int n;
40
       char c;
41
       std::stringstream stream(input);
42
43
       while (stream >> c) {
44
           if (c == 'a') {
               stream >> n;
45
46
               SetA.push_back(n);
           }
47
           else if (c == 'b') {
48
49
               stream >> n;
50
               SetB.push_back(n);
51
           }
52
           else
53
               return false;
54
55
       return true;
56 }
57
58
```

```
60 // Compared to the first assignment, now data point have to be printed
61 // alternatively. This creates a complication if the 2 datasets have
62 // different sizes.
63 ///////////
64
65
66 void interDisplay(std::vector<int>& Va, std::vector<int>& Vb) {
67
       // Get the sizes once to avoid recalling the method size multiple times
       unsigned lA = Va.size();
68
69
       unsigned lB = Vb.size();
70
       // Use a different name (a reference) for the shorter size
71
       unsigned& shorter = (lA <= lB) ? lA : lB;</pre>
72
73
74
       // print alternatively until this size
75
       for (auto i = 0 ; i < shorter ; i++)</pre>
          std::cout << Va[i] << " " << Vb[i] << " ";
76
77
78
       // Print the additional elements of the longer dataset.
79
       // Delegate the printing to another function using iterators for a class
80
      // vector
       if (lA > lB)
81
          display(Va.begin() + shorter - 1, Va.end());
82
83
       else if (lB > lA)
84
          display(Vb.begin() + shorter - 1, Vb.end());
85
       else
86
          return;
87 }
88
89
90
91
92
93
94
95
96
98 // Takes 2 iterators to address the excess of the longer vector.
100
101
102 void display(std::vector<int>::iterator pos, std::vector<int>::iterator end) {
       for ( ; pos != end ; pos++)
103
104
          std::cout << *pos << " ";
105 }
```