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1  // This program separates negative numbers from positives number from an array that is
   read from the keyboard
2
3  using namespace std;
4  #include <iostream>
5
6  void separation(int nrElem, int *&initialList, int &positivesCounter, int
   *&potivesList, int &negativesCounter, int *&negativesList)
7  {
8      positivesCounter = 0;
9      negativesCounter = 0;
10     for (int i = 0; i < nrElem; i++)
11     {
12         if (initialList[i] >= 0)
13         {
14             positivesCounter++;
15         }
16         else
17         {
18             negativesCounter++;
19         }
20     }
21
22     potivesList = new int[positivesCounter];
23     negativesList = new int[negativesCounter];
24
25     int k = 0, h = 0;
26
27     for (int i = 0; i < nrElem; i++)
28     {
29         if (initialList[i] >= 0)
30         {
31             potivesList[k++] = initialList[i];
32         }
33         else
34         {
35             negativesList[h++] = initialList[i];
36         }
37     }
38
39     delete[]initialList;
40
41 }
42
43 void main()
44 {
45     int i, nrElem, positivesCount, negativesCount, *elementsArray, *positivesArray,
   *negativesArray;
46     cout << "Number of elements in the array : ";
47     cin >> nrElem;
48     elementsArray = new int[nrElem];
49     cout << "Enter elements of the array " << endl;
50     for (i = 0; i < nrElem; i++)
51     {
52         cout << "a[" << i + 1 << "] = ";
53         cin >> elementsArray[i];
54     }
55     separation(nrElem, elementsArray, positivesCount, positivesArray, negativesCount,
   negativesArray); //seding by reference
56     cout << "The list of positive numbers: ";
57     for (i = 0; i < positivesCount; i++)
58     {
59         cout << positivesArray[i] << " ";
60     }
61     cout << endl << "The list of negative numbers: ";
62     for (i = 0; i < negativesCount; i++)
63     {
64         cout << negativesArray[i] << " ";
65     }

```

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66     cout << endl;
67     delete[] positivesArray;
68     delete[] negativesArray;
69     cin.get(); // wait for keypress
70 }
```