```cpp
1
2  /*
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6
7      CS A200
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9
10      Lab 8
11 */
12 #include <iostream>
13 using namespace std;
14
15 // Declaration of function processStacks
16 void processStacks(int *a, int, int& leftTop, int& rightTop);
17 // Declaration of function printSmallValues
18 void printSmallValues(int *a, int leftTop);
19 // Declaration of function printLargeValues
20 void printLargeValues(int *a, int cap, int rightTop);
21
22 int main()
23 {
24     int cap = 0;
25     int leftTop = 0;
26     int rightTop=0;
27
28     cout << "Enter max number of integers: ";
29     cin >> cap;
30
31     int *a = new int[cap] ;
32
33     // call to function processStacks
34     processStacks(a, cap, leftTop, rightTop);
35     // call to function printSmallValues
36      printSmallValues(a,  leftTop);
37     // call to function printLargeValues
38      printLargeValues(a, cap, rightTop);
39     // what else?
40     delete[] a;
41
42
43     cout << endl;
44     system("Pause");
45     return 0;
46 }
47
48 // Definition of function processStacks
49 void processStacks(int *a, int cap, int& leftTop, int& rightTop)
50 {
51     leftTop = 0;
52     rightTop = cap - 1;
```

```cpp
53        int x = 0;
54        cout << "Enter integers (-1 to quit): " << endl;
55        cin >> x;
56
57        while (x != -1)
58        {
59            if (x <= 1000)
60                a[leftTop++] = x;
61            else
62                a[rightTop--] = x;
63            cin >> x;
64        }
65    }
66    // Definition of function printSmallValues
67    void printSmallValues(int *a, int leftTop)
68    {
69        cout << "Stack with small values (top): ";
70        for (int i = leftTop - 1; i >= 0; i--)
71            cout << a[i] << " ";
72        cout << endl;
73    }
74    // Definition of function printLargeValues
75    void printLargeValues(int *a, int cap, int rightTop)
76    {
77        cout << "Stack with large values (top): ";
78        for (int i = rightTop + 1 ; i < cap; i++)
79            cout << a[i] << " ";
80        cout << endl;
81    }
```