

```

1 //
2 // main.cpp
3 // A1_COSC_1437_014
4 //
5 // Created by Nicholas Brown on 1/17/25.
6 //
7 #include <iostream>
8 using namespace std;
9
10 int bubbleSort(long Array1[], int SIZE);
11 int selectionSort(long Array2[], int SIZE);
12 void swap(long &a, long &b);
13
14
15 int main() {
16
17
18     int const SIZE = 20;
19
20
21     long Array1[SIZE] = {
22         12, 5, 18, 2, 20, 1, 15, 8, 10, 13,
23         6, 17, 3, 19, 11, 7, 14, 4, 9, 16
24     };
25
26     long Array2[SIZE] = {
27         12, 5, 18, 2, 20, 1, 15, 8, 10, 13,
28         6, 17, 3, 19, 11, 7, 14, 4, 9, 16
29     };
30
31
32     cout << "The number of swaps used in Bubble Sort:" << bubbleSort(Array1, SIZE) << endl;
33     cout << "The number of swaps used in Selection Sort:" << selectionSort(Array2, SIZE) << endl;
34
35
36
37     return 0;
38 }
39
40
41 // This is my swapping function
42 void swap(long& a, long& b){
43
44     long temp = a;
45     a = b;
46     b = temp;
47 }
48
49
50 int bubbleSort(long Array1[],int SIZE){
51     int bbl_counter = 0;
52     for (int i = 0; i < SIZE-1 ; i++) {
53         for (int j = 0; j < SIZE - 1 - i; j++) {
54             if (Array1[j + 1] < Array1[j]){
55                 swap(Array1[j+1], Array1[j]);
56                 bbl_counter++;
57             }
58         }
59     }

```

