

## Seatwork 4.1

### Arrays

Course Code: CPE007	Program: Computer Engineering
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### 6. Output

Screenshot of the Code:

The screenshot shows a code editor with a dark theme and a terminal window. The code is a C++ program that demonstrates array manipulation and bubble sort. The terminal window shows the execution of the program, including the modification of the first element, printing the array, swapping elements, performing a bubble sort, and finally printing the sorted array.

```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     //array declaration
5     int scores [10] = {90,85,78,88,92,80,75,80,89,91};
6     //print the 5th element of the array
7     cout<<scores[4]<<endl;
8     //change the value of first element to 95
9     scores[0]=95;
10    cout<<"new value of the scores[0]: "<<scores[0]<<endl;
11    //printing the whole array;
12    for (int i=0; i < 10; i++){
13        cout<<scores[i]<< " ";
14    }
15    //swapping variables:
16    int var1 = 10;
17    int var2 = 20;
18
19    int temp = var1;
20    var1 = var2;
21    var2 = temp;
22
23    //swapping elements on an array:
24    temp = scores[0];
25    scores[0] = scores[9];
26    scores[9] = temp;
27
28    cout<<endl;
29    for (int i=0; i < 10; i++){
30        cout<<scores[i]<< " ";
31    }
32
33    //bubble sort
34    int n = 10;
35    for (int i=0; i < n - 1; i++){
36        for (int j = 0; j < n - 1; j++){
37            if (scores[j] > scores[j+1]){
38                //swap scores[j] and scores [j+1]
39                temp = scores[j];
40                scores[j] = scores[j+1];
41                scores[j+1] = temp;
42            }
43        }
44    }
45    //print sorted array
46    cout <<"\nScores in ascending order: \n";
47
48    for (int i = 0; i < n; i++){
49        cout << scores[i] << " ";
50    }
51
52 }
```

Output:

```
92
new value of the scores[0]: 95
95 85 78 88 92 80 75 80 89 91
91 85 78 88 92 80 75 80 89 95
Scores in ascending order:
75
78
80
80
85
88
89
91
92
95

-----
Process exited after 0.01235 seconds with return value 0
Press any key to continue . . . |
```

```
C:\Users\TIPQC\Documents\c X + v - □ ×
92
new value of the scores[0]: 95
95 85 78 88 92 80 75 80 89 91
91 85 78 88 92 80 75 80 89 95
Scores in ascending order:
75
78
80
80
85
88
89
91
92
95
-----
Process exited after 0.04593 seconds with return value 0
Press any key to continue . . .
```

## 7. Supplementary Activity

## 8. Conclusion

What I learned today is about arrays. Arrays are important when you have to store multiple values in one variable. You will not need to declare multiple variables anymore if you want to input as many values as you want. It will be a hassle for you to code deeper if you don't know arrays enough right now. Arrays are critical for deep coding works as it will be a storage of multiple values. It will make your desired projects more possible and quicker. That's why there are many programmed products right now that made possible by an arrays.