

**Lab Manual:8**

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**Question 1:**

## Compile Result

Enter 5 numbers:

Enter number 1: 4

Enter number 2: 4

Enter number 3: 6

Enter number 4:

9

Enter number 5: 3

Average of the numbers: 5.2

[Process completed - press Enter]



## Coding C++

RUN

MENU

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```
1  #include <iostream>
2
3  int main() {
4      const int size = 5;
5      int numbers[size];
6
7
8      std::cout << "Enter " << size << " numbers:\n";
9      for (int i = 0; i < size; ++i) {
10         std::cout << "Enter number " << i + 1 << ": ";
11         std::cin >> numbers[i];
12     }
13
14
15     int sum = 0;
16     for (int i = 0; i < size; ++i) {
17         sum += numbers[i];
18     }
19
20
21     double average = static_cast<double>(sum) / size;
22
23
24     std::cout << "Average of the numbers: " << average << std::endl;
25
26     return 0;
27 }
```

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## Question 2:

## Compile Result

Enter 5 numbers:

Enter number 1: 2

Enter number 2: 3

Enter number 3: 4

Enter number 4: 5

Enter number 5: 6

Sorted array: 2 3 4 5 6

[Process completed - press Enter]



## Coding C++

RUN

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```
1 #include <iostream>
2
3 void bubbleSort(int arr[], int size) {
4     for (int i = 0; i < size - 1; ++i) {
5         for (int j = 0; j < size - i - 1; ++j) {
6             if (arr[j] > arr[j + 1]) {
7                 std::swap(arr[j], arr[j + 1]);
8             }
9         }
10    }
11    int main() {
12        const int size = 5;
13        int numbers[size];
14        std::cout << "Enter " << size << " numbers:\n";
15        for (int i = 0; i < size; ++i) {
16            std::cout << "Enter number " << i + 1 << ": ";
17            std::cin >> numbers[i];
18        }
19        bubbleSort(numbers, size);
20
21        std::cout << "Sorted array: ";
22        for (int i = 0; i < size; ++i) {
23            std::cout << numbers[i] << " ";
24        }
25        std::cout << std::endl;
26
27        return 0;
28    }
29
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**Question 3:**

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## Compile Result

1 2 5 6 9

[Process completed - press Enter]





## Coding C++

RUN

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Nothing changed

```
1 #include <iostream>
2 using namespace std;
3 auto selectionSort(int arr[], int n) {
4     for (int i = 0; i < n - 1; ++i) {
5         int minIndex = i;
6         for (int j = i + 1; j < n; ++j) {
7             if (arr[j] < arr[minIndex]) {
8                 minIndex = j;
9             }
10        }
11        swap(arr[i], arr[minIndex]);
12    }
13 }
14 int main() {
15     int myArray[5] = {5, 2, 9, 1, 6};
16     int size = sizeof(myArray) / sizeof(myArray[0]);
17
18     selectionSort(myArray, size);
19     for (int i = 0; i < size; ++i) {
20         cout << myArray[i] << " ";
21     }
22
23     return 0;
24 }
```

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