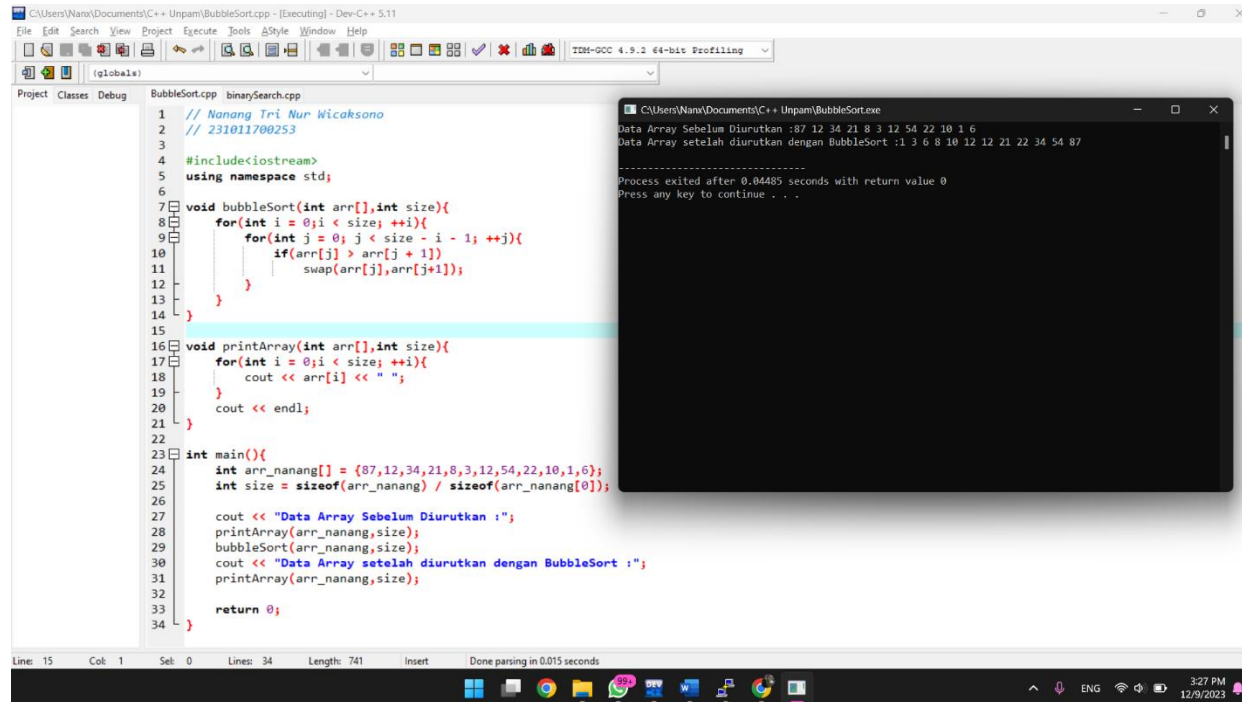


## Pertemuan 5



The screenshot shows a C++ IDE with the file `BubbleSort.cpp` open. The code implements a bubble sort algorithm. A terminal window in the foreground shows the output of the program, displaying the array before and after sorting.

```
1 // Nanang Tri Nur Wicaksono
2 // 231011700253
3
4 #include<iostream>
5 using namespace std;
6
7 void bubbleSort(int arr[],int size){
8     for(int i = 0;i < size; ++i){
9         for(int j = 0; j < size - i - 1; ++j){
10             if(arr[j] > arr[j + 1])
11                 swap(arr[j],arr[j+1]);
12         }
13     }
14 }
15
16 void printArray(int arr[],int size){
17     for(int i = 0;i < size; ++i){
18         cout << arr[i] << " ";
19     }
20     cout << endl;
21 }
22
23 int main(){
24     int arr_nanang[] = {87,12,34,21,8,3,12,54,22,10,1,6};
25     int size = sizeof(arr_nanang) / sizeof(arr_nanang[0]);
26
27     cout << "Data Array Sebelum Diurutkan :";
28     printArray(arr_nanang,size);
29     bubbleSort(arr_nanang,size);
30     cout << "Data Array setelah diurutkan dengan BubbleSort :";
31     printArray(arr_nanang,size);
32
33     return 0;
34 }
```

Output from the terminal:

```
Data Array Sebelum Diurutkan :87 12 34 21 8 3 12 54 22 10 1 6
Data Array setelah diurutkan dengan BubbleSort :1 3 6 8 10 12 12 21 22 34 54 87
Process exited after 0.04485 seconds with return value 0
Press any key to continue . . .
```

```
// Nanang Tri Nur Wicaksono
// 231011700253
```

```
#include<iostream>
using namespace std;
```

```
void bubbleSort(int arr[],int size){
    for(int i = 0;i < size; ++i){
        for(int j = 0; j < size - i - 1; ++j){
            if(arr[j] > arr[j + 1])
                swap(arr[j],arr[j+1]);
        }
    }
}
```

```
void printArray(int arr[],int size){
    for(int i = 0;i < size; ++i){
        cout << arr[i] << " ";
    }
    cout << endl;
}
```

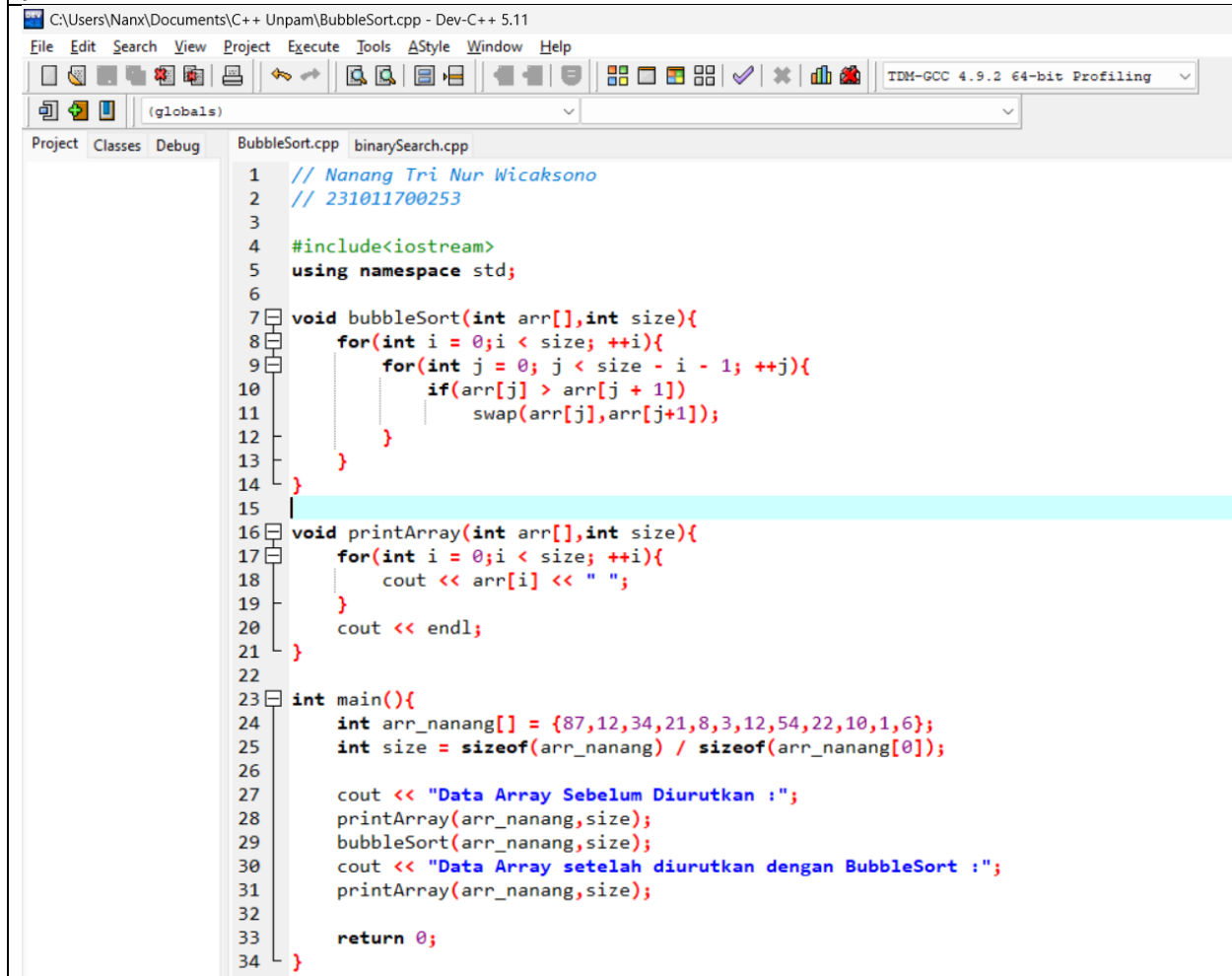
```
int main(){
    int arr_nanang[] = {87,12,34,21,8,3,12,54,22,10,1,6};
    int size = sizeof(arr_nanang) / sizeof(arr_nanang[0]);

    cout << "Data Array Sebelum Diurutkan :";
```

```
printArray(arr_nanang,size);
bubbleSort(arr_nanang,size);
cout << "Data Array setelah diurutkan dengan BubbleSort :";
printArray(arr_nanang,size);
```

```
return 0;
```

```
}
```



The screenshot shows a C++ IDE window titled "C:\Users\Nanx\Documents\C++ Unpam\BubbleSort.cpp - Dev-C++ 5.11". The interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, and a status bar indicating "TDM-GCC 4.9.2 64-bit Profiling". The project explorer on the left shows "Project", "Classes", and "Debug" tabs, with "BubbleSort.cpp" and "binarySearch.cpp" listed. The main editor displays the following code:

```
1 // Nanang Tri Nur Wicaksono
2 // 231011700253
3
4 #include<iostream>
5 using namespace std;
6
7 void bubbleSort(int arr[],int size){
8     for(int i = 0;i < size; ++i){
9         for(int j = 0; j < size - i - 1; ++j){
10             if(arr[j] > arr[j + 1])
11                 swap(arr[j],arr[j+1]);
12         }
13     }
14 }
15
16 void printArray(int arr[],int size){
17     for(int i = 0;i < size; ++i){
18         cout << arr[i] << " ";
19     }
20     cout << endl;
21 }
22
23 int main(){
24     int arr_nanang[] = {87,12,34,21,8,3,12,54,22,10,1,6};
25     int size = sizeof(arr_nanang) / sizeof(arr_nanang[0]);
26
27     cout << "Data Array Sebelum Diurutkan :";
28     printArray(arr_nanang,size);
29     bubbleSort(arr_nanang,size);
30     cout << "Data Array setelah diurutkan dengan BubbleSort :";
31     printArray(arr_nanang,size);
32
33     return 0;
34 }
```