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Tugas Modul PAP-04

No 1

main.cpp

```
#include <iostream>
#include "pustaka.h"
using namespace std;
int main()
{
    int arr1[] = {1, 2, 3, 4, 5, 6, 0, 0, 0, 0};
    int arr2[] = {1, 2, 3, 4, 0, 0, 0, 0, 0, 0};
    int arr3[] = {2, 4, 9, 5, 1, 0, 0, 0, 0, 0};
    int arr4[] = {2, 8, 5, 0, 0, 0, 0, 0, 0, 0};
    countArray(arr1, 10);
    countArray(arr2, 10);
    countArray(arr3, 10);
    countArray(arr4, 10);
    return 0;
}
```

pustaka.cpp

```
#include "pustaka.h"
#include <iostream>
using namespace std;
void countArray(int f[], int size) {
```

```

int i, j, k = 0;
for (i = 1; i < size; i++){
    for (j = 0; j < i; j++){
        if (n[i] == n[j]){
            break;
        }
    }
    if (i == j){
        k++;
    }
}
cout << k << endl;
}

```

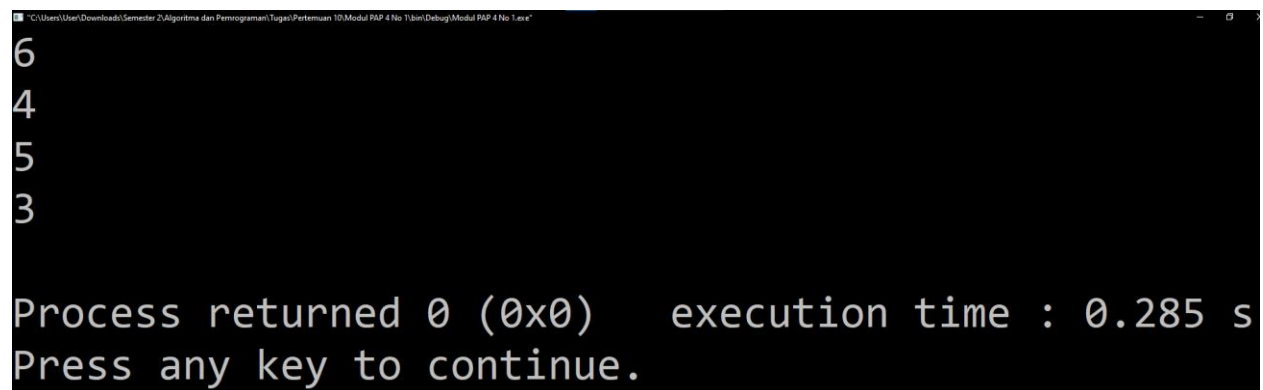
pustaka.h

```

#ifndef PUSTAKA_H_INCLUDED
#define PUSTAKA_H_INCLUDED
void countArray(int f[], int size);
#endif // PUSTAKA_H_INCLUDED

```

Hasil coding



The screenshot shows a terminal window with the following output:

```

6
4
5
3

Process returned 0 (0x0)   execution time : 0.285 s
Press any key to continue.

```

No 2

main.cpp

```
#include <iostream>

#include "pustaka.h"

using namespace std;

int main()
{
    int arr1[] = { 3, 5, 38, 44, 47 };
    int arr2[] = { 3, 44, 38, 5, 47 };
    int arr3[] = { 2, 15, 26, 27, 36 };
    int arr4[] = { 15, 36, 27, 2, 26 };
    arraySort(arr1, 5);
    arraySort(arr2, 5);
    arraySort(arr3, 5);
    arraySort(arr4, 5);
    return 0;
}
```

pustaka.cpp

```
#include "pustaka.h"

#include <iostream>

using namespace std;

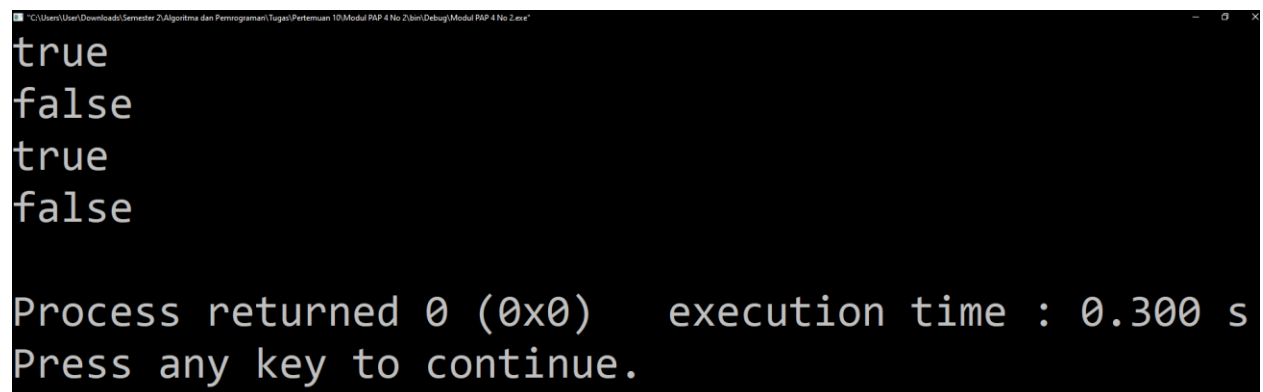
void arraySort(int f[], int size) {
    for (int i=0; i < size-1; i++) {
        if (n[i] > n[i+1]) {
            cout << "false" << endl;
            return;
        }
    }
}
```

```
}  
  
cout << "true" << endl;  
  
}
```

pustaka.h

```
#ifndef PUSTAKA_H_INCLUDED  
  
#define PUSTAKA_H_INCLUDED  
  
void arraySort(int f[], int size);  
  
#endif // PUSTAKA_H_INCLUDED
```

Hasil coding



The screenshot shows a Windows command prompt window titled "C:\Users\User\Downloads\Semester 2\Algoritma dan Pemrograman\Tugas\Pertemuan 10\Modul PAP 4 No 2\bin\Debug\Modul PAP 4 No 2.exe". The output of the program is as follows:

```
true  
false  
true  
false  
  
Process returned 0 (0x0)   execution time : 0.300 s  
Press any key to continue.
```

No 3

main.cpp

```
#include "pustaka.h"
#include <iostream>
using namespace std;
int main()
{
    int arr1[] = { 3, 44, 38, 5, 47 };
    int arr2[] = { 15, 36, 27, 2, 26 };
    bubbleSort(arr1, 5);
    cout << endl;
    bubbleSort(arr2, 5);
    cout << endl;
    return 0;
}
```

pustaka.cpp

```
#include "pustaka.h"
#include <iostream>
using namespace std;
void bubbleSort(int n[], int size) {
    int i, j, temp;
    for(int y; y<size; y++){
        cout << n[y] << " ";
    }
    cout << endl;
    for (i = 0; i < size - 1; i++){
        for (j = 0; j < size - i - 1; j++){
```

```

        if (n[j] > n[j + 1]){
            temp = n[j];
            n[j] = n[j + 1];
            n[j + 1] = temp;
        }
    }
    for(int y=0; y < size; y++) {
        cout << n[y] << " ";
    }
    cout << endl;
}
}

```

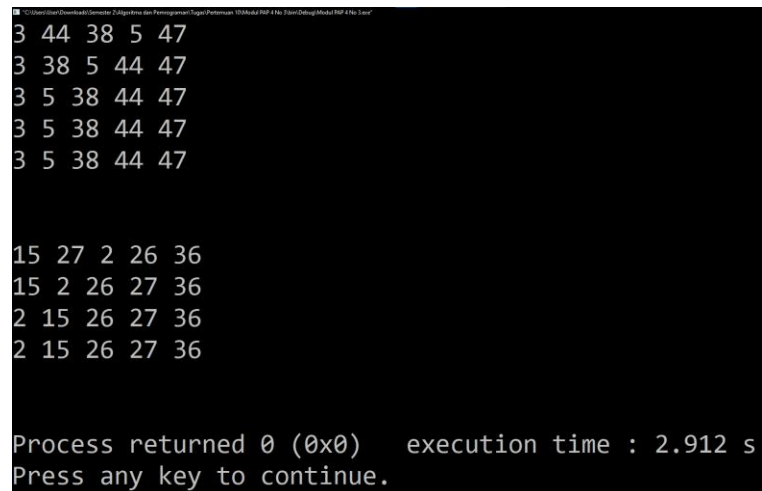
pustaka.h

```

#ifndef PUSTAKA_H_INCLUDED
#define PUSTAKA_H_INCLUDED
void bubbleSort(int f[], int size);
#endif // PUSTAKA_H_INCLUDED

```

Hasil coding



```

3 44 38 5 47
3 38 5 44 47
3 5 38 44 47
3 5 38 44 47
3 5 38 44 47

15 27 2 26 36
15 2 26 27 36
2 15 26 27 36
2 15 26 27 36

Process returned 0 (0x0)   execution time : 2.912 s
Press any key to continue.

```

No 4

main.cpp

```
#include "pustaka.h"
#include <iostream>
using namespace std;
int main()
{
    int arr1[] = { 3, 44, 38, 5, 47 };
    int arr2[] = { 15, 36, 27, 2, 26 };
    bubbleSort(arr1, 5);
    cout << endl;
    bubbleSort(arr2, 5);
    cout << endl;
    return 0;
}
```

pustaka.cpp

```
#include "pustaka.h"
#include <iostream>
using namespace std;
bool is_sort(int arr[], int length) {
    bool is_sort = true;
    int tempVal = 0;
    for(int i = 0; i < (length+1); i++){
        if(tempVal > arr[i]){
            is_sort = false;
        }
        tempVal = arr[i];
    }
}
```

```

    }
    return is_sort;
}

void bubbleSort(int arr[], int f) {
    int i, j, temp;
    int show = 0;
    for(i=0; i<n-1; i++){
        for(j=0; j<(n-i-1); j++){
            if(arr[j]>arr[j+1]){
                temp = arr[j];
                arr[j] = arr[j+1];
                arr[j+1] = temp;
            }
        }
    }
    int if_sort = is_sort(arr, (n-1));
    if(show == 0){
        for(int j=0; j<n; j++){
            cout << arr[j] << " ";
        }
        cout << endl;
        if(if_sort == 1){
            show = 1;
        }
    }
}
}

```

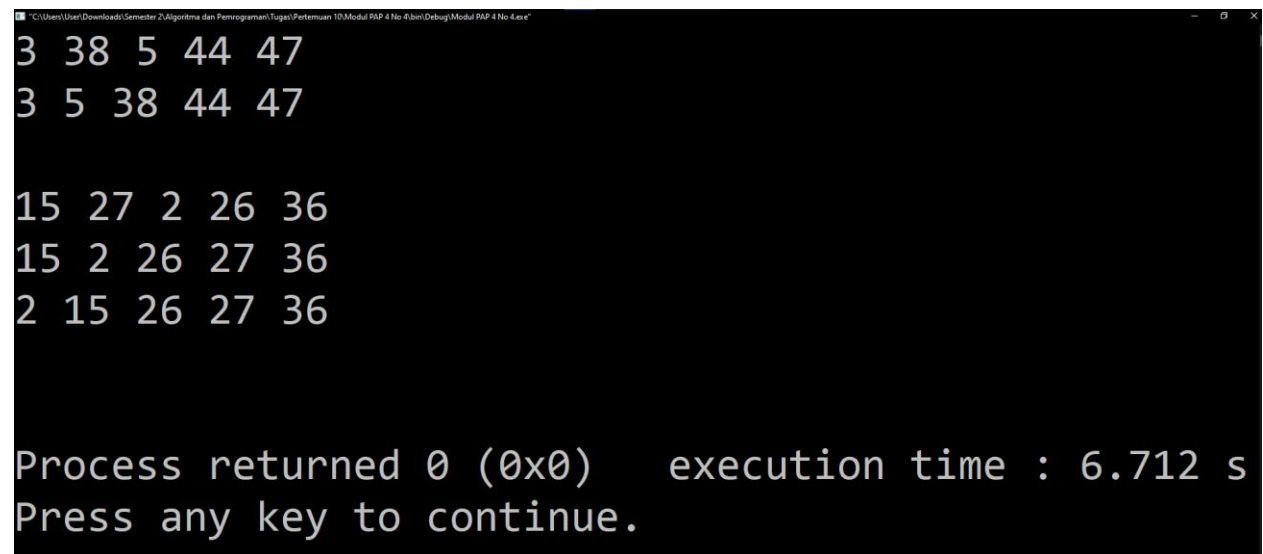
pustaka.h


```
#ifndef PUSTAKA_H_INCLUDED
#define PUSTAKA_H_INCLUDED

bool is_sort(int arr[], int length);
void bubbleSort(int f[], int size);

#endif // PUSTAKA_H_INCLUDED
```

Hasil coding



```
C:\Users\User\Downloads\Semester 2\Algoritma dan Pemrograman\Tugas\Pertemuan 10\Modul PAP 4 No. 4\bin\Debug\Modul PAP 4 No. 4.exe
3 38 5 44 47
3 5 38 44 47

15 27 2 26 36
15 2 26 27 36

2 15 26 27 36

Process returned 0 (0x0)   execution time : 6.712 s
Press any key to continue.
```