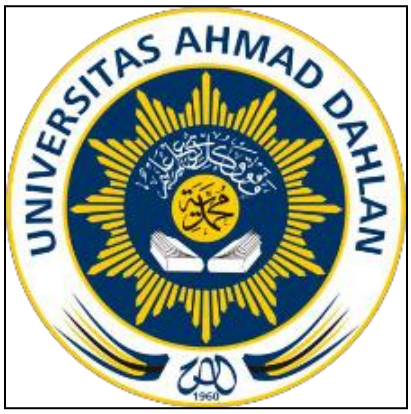
LAPORAN POSTEST

ALGORITMA PEMROGRAMAN



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KELAS C

PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS TEKNOLOGI INDUSTRI

UNIVERSITAS AHMAD DAHLAN

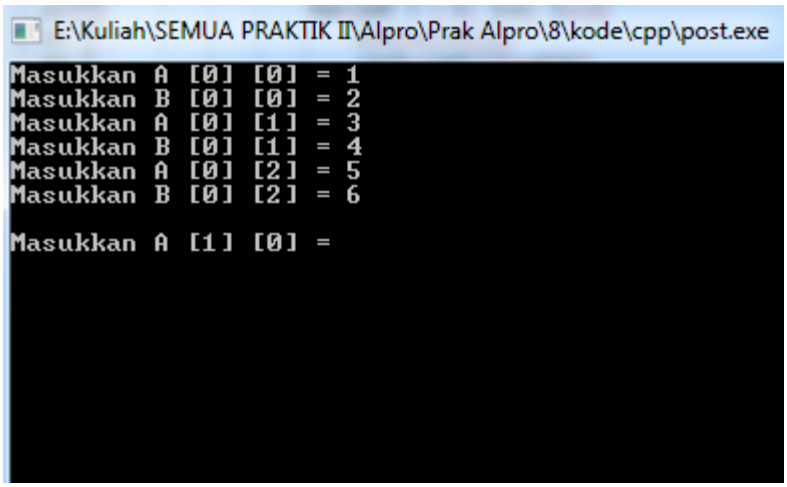
2022

post.cpp

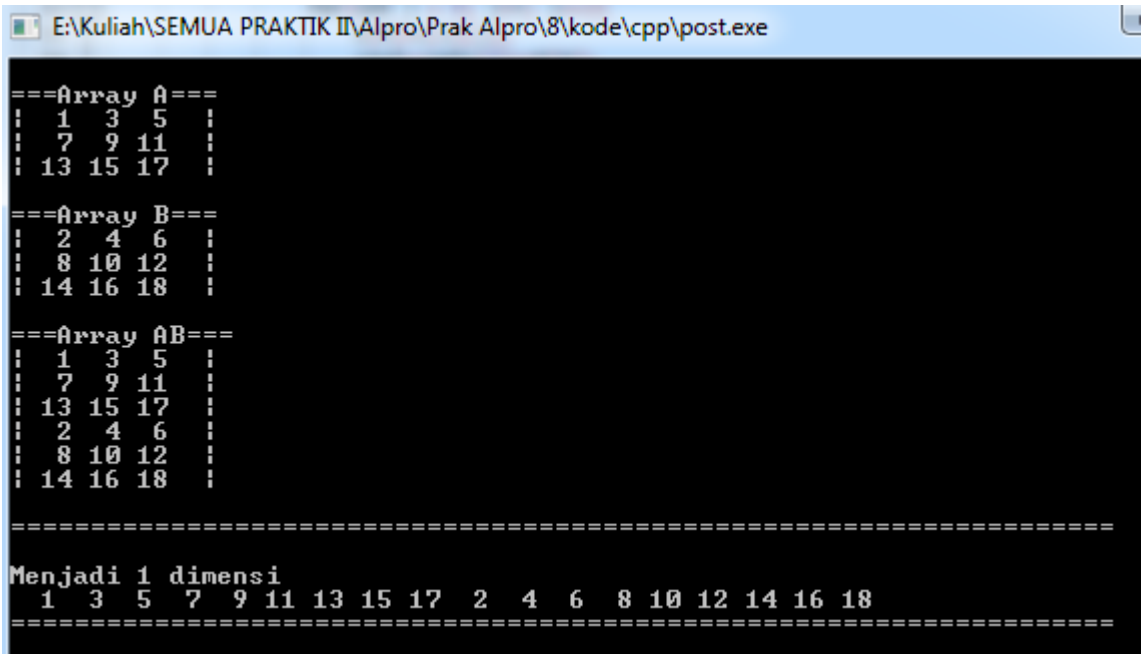
```cpp
#include <iostream>
#include <iomanip>
#include <cstdlib>
using namespace std;
class gbm{
    private:
        int n= 3;
        int A[5][5],B[5][5],C[5][5],D[100];
        int temp;
        bool swap;
        int k = 3;
    public:
        int proses(){
            for(int i = 0; i <n ; i++){
                for(int j = 0; j<n; j++){
                        cout<<"Masukkan A ["<<i<<"] ["<<j<<"] = ";
                        cin>>A[i][j];
                        cout<<"Masukkan B ["<<i<<"] ["<<j<<"] = ";
                        cin>>B[i][j];
                        C[i][j]=A[i][j];
                        C[i+n][j]=B[i][j];
                }
                cout<<endl;
            }
            cout<<"\n===Array A===\n";
            for(int i = 0; i <n ; i++){
                cout<<"|";
                for(int j = 0; j<n; j++){
                        cout<<setw(3)<<A[i][j];
                }
                cout<<"  |"<<endl;
            }
            cout<<"\n===Array B===\n";
            for(int i = 0; i <n ; i++){
                cout<<"|";
                for(int j = 0; j<n; j++){
                        cout<<setw(3)<<B[i][j];
                }
                cout<<"  |"<<endl;
            }
            cout<<"\n===Array AB===\n";
            for(int i = 0; i <(n+n) ; i++){
```

post.cpp

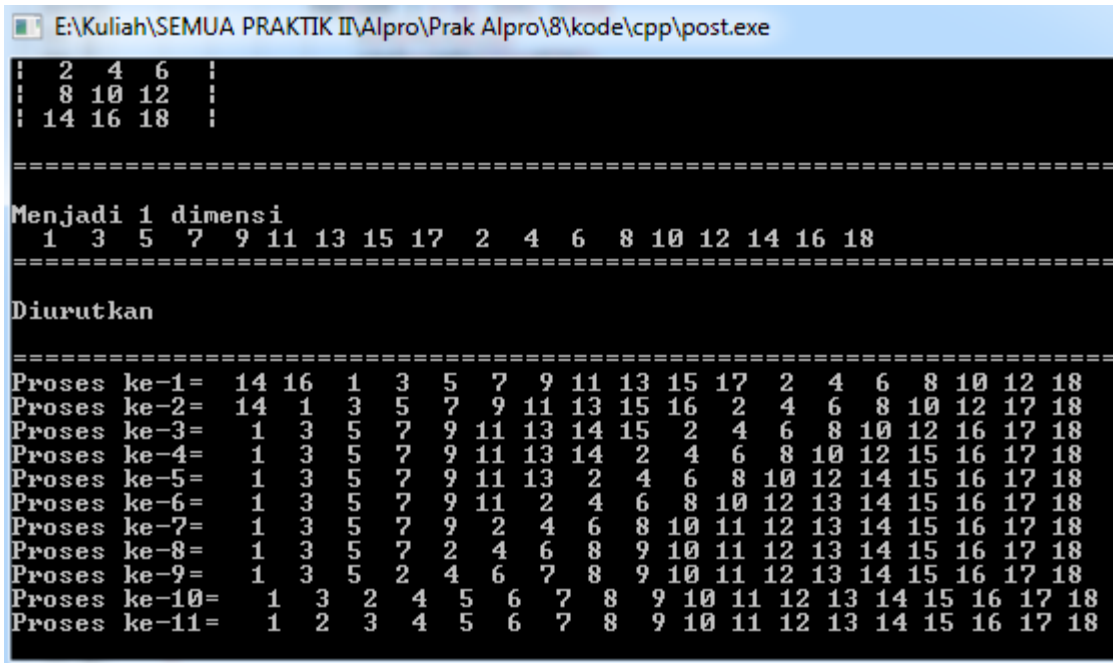
```
        }
        cout<<"\n===Array AB===\n";
        for(int i = 0; i <(n+n) ; i++){
            cout<<"|";
            for(int j = 0; j<n; j++){
                cout<<setw(3)<<C[i][j];
            }
            cout<<"  |"<<endl;
        }
        cout<<"\n=========================================================================\n";
        cout<<"\nMenjadi 1 dimensi\n";
        for(int i = 0; i <(n+n) ; i++){
            for(int j = 0; j<n; j++){
                D[k]=C[i][j];
                cout<<setw(3)<<D[k];
                k++;
            }
        }
        cout<<"\n=========================================================================\n";
        cout<<"\nDiurutkan\n";
        cout<<"\n=========================================================================\n";
        for(int i = 0; i < 18; i++){
            swap=false;
            for(int j = 0;j < 17; j++){
                if(D[j]>D[j+1]){
                    temp=D[j];
                    D[j]=D[j+1];
                    D[j+1]=temp;
                swap =true;
                }
            }
            if(swap==false){
                break;
            }
            cout<<"Proses ke-"<<i+1<<"= ";
            output();
        }
    }
    int output(){
        for(int i = 0; i < 18;i++){
            cout<<setw(3)<<D[i];
        }
                cout<<endl;
        }
};

main(){
    gbm cek;
    cek.proses();
    cout<<endl;
    return 0;
}
```



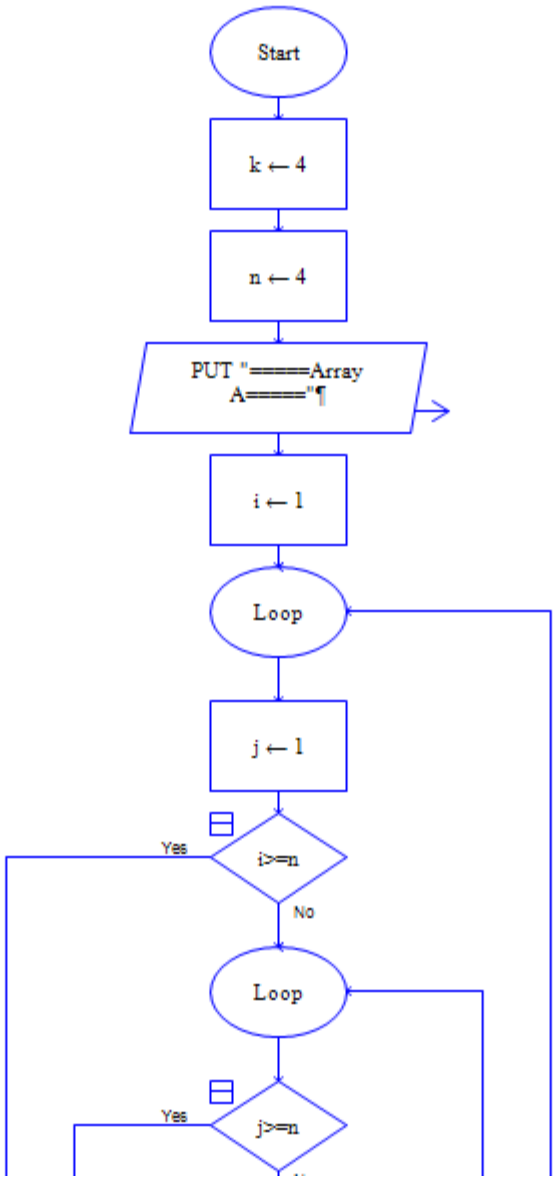
Input



Outpput

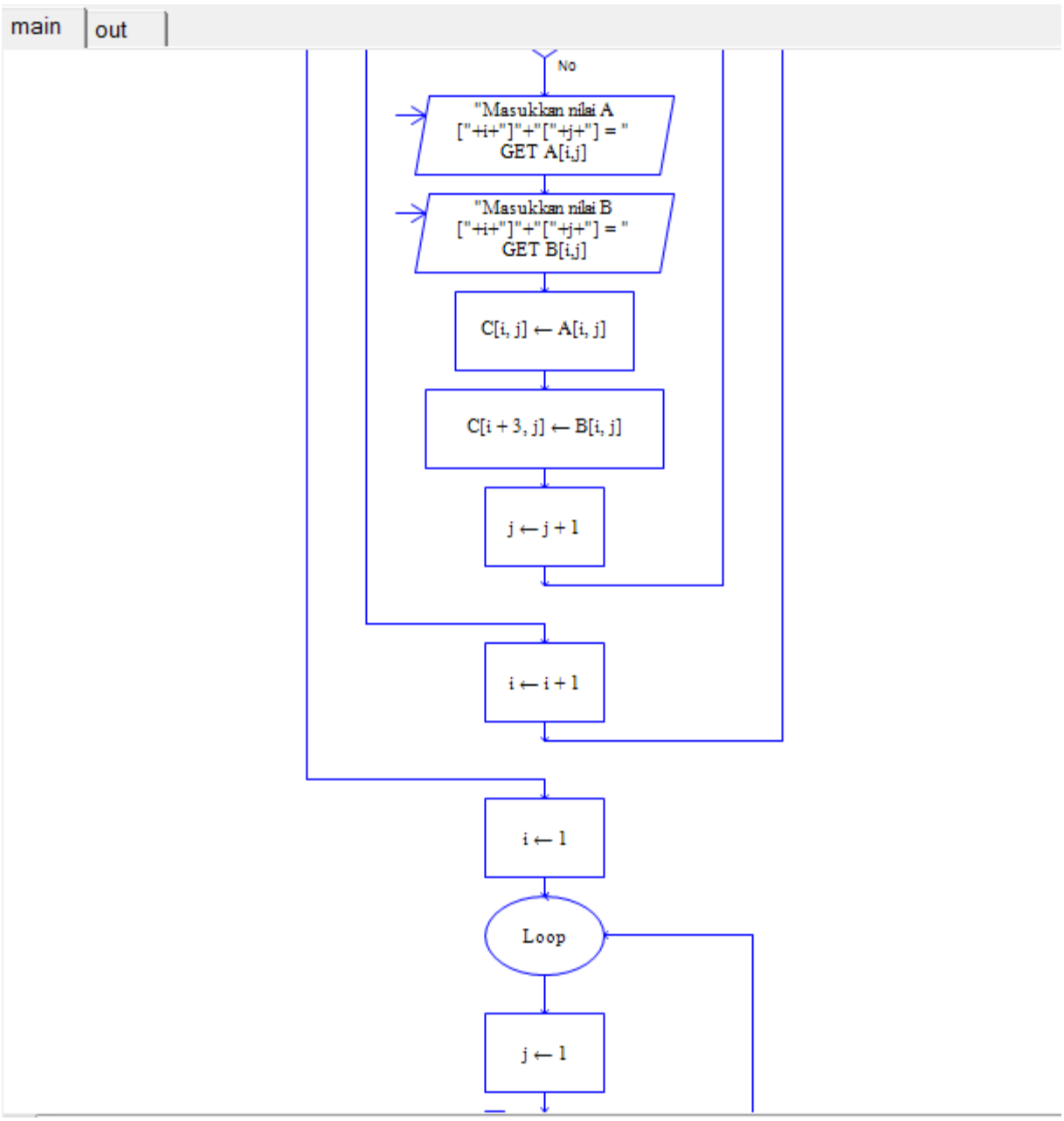

E:\Kuliah\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\post.exe
| 2 4 6 |
| 8 10 12 |
| 14 16 18 |
==========
Menjadi 1 dimensi
 1 3 5 7 9 11 13 15 17 2 4 6 8 10 12 14 16 18
==========
Diurutkan
==========
Proses ke-1= 14 16 1 3 5 7 9 11 13 15 17 2 4 6 8 10 12 18
Proses ke-2= 14 1 3 5 7 9 11 13 15 16 2 4 6 8 10 12 17 18
Proses ke-3= 1 3 5 7 9 11 13 14 15 2 4 6 8 10 12 16 17 18
Proses ke-4= 1 3 5 7 9 11 13 14 2 4 6 8 10 12 15 16 17 18
Proses ke-5= 1 3 5 7 9 11 13 2 4 6 8 10 12 14 15 16 17 18
Proses ke-6= 1 3 5 7 9 11 2 4 6 8 10 12 13 14 15 16 17 18
Proses ke-7= 1 3 5 7 9 2 4 6 8 10 11 12 13 14 15 16 17 18
Proses ke-8= 1 3 5 7 2 4 6 8 9 10 11 12 13 14 15 16 17 18
Proses ke-9= 1 3 5 2 4 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-10= 1 3 2 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-11= 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

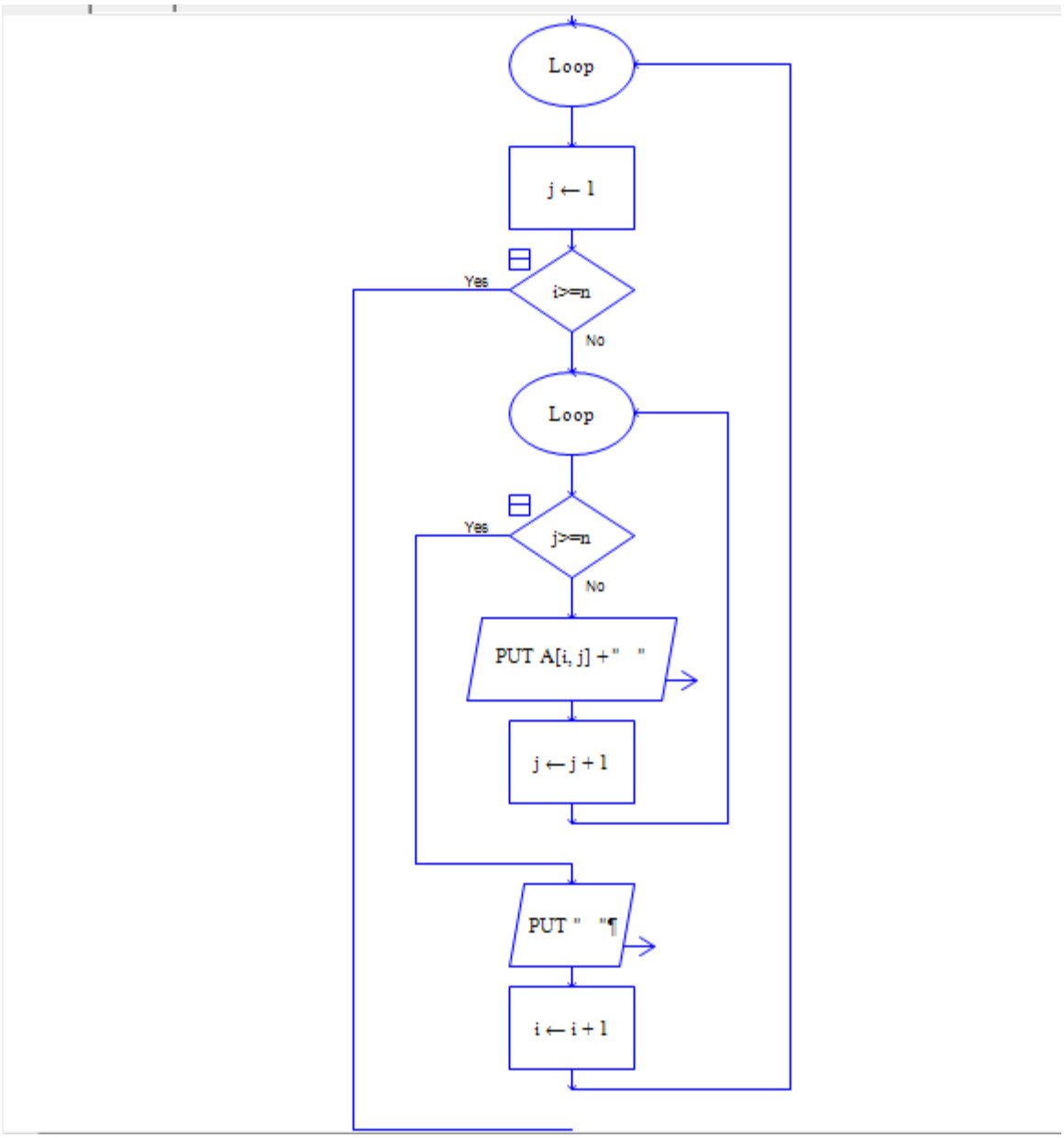
main | out



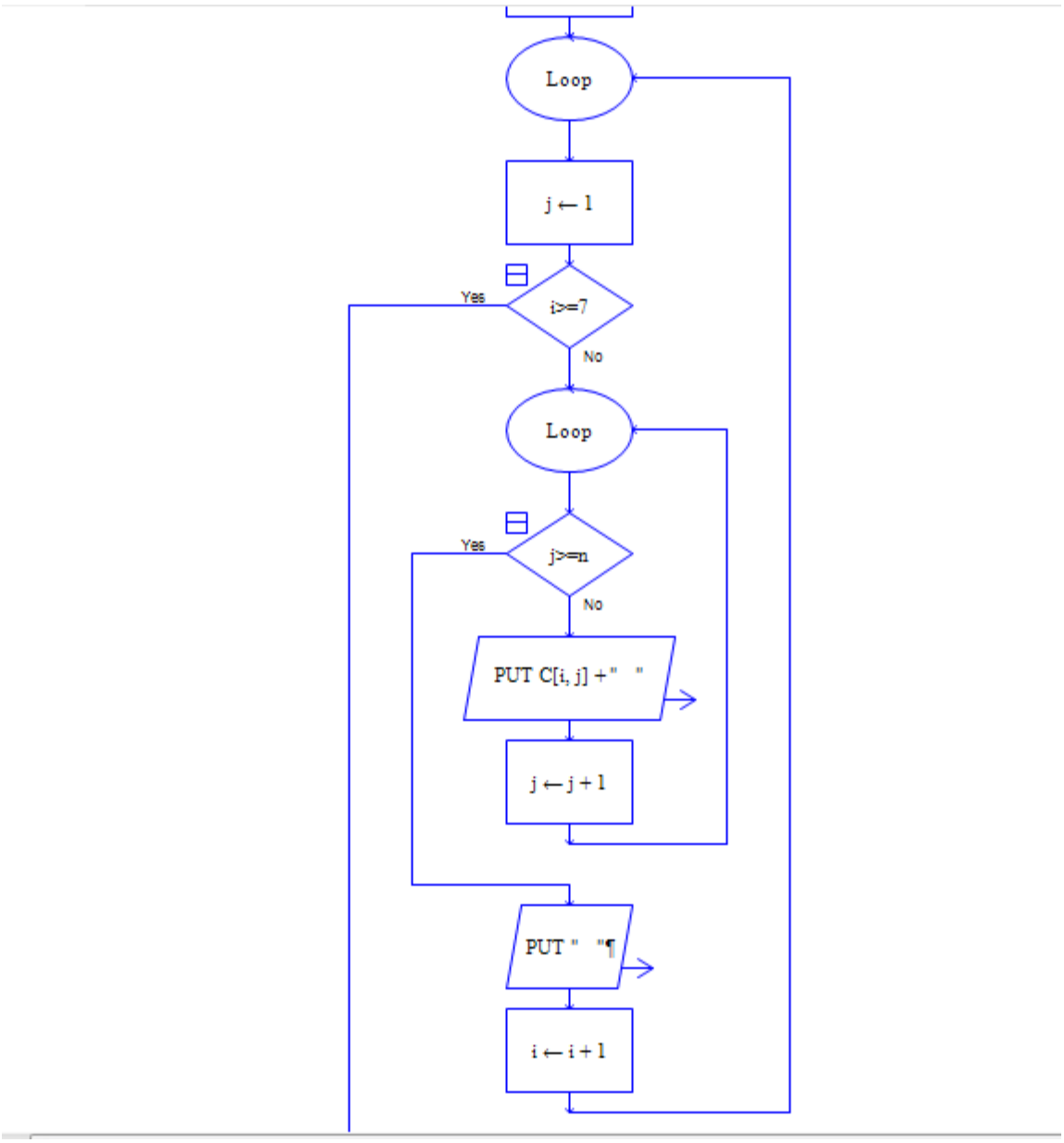
Main

main | out

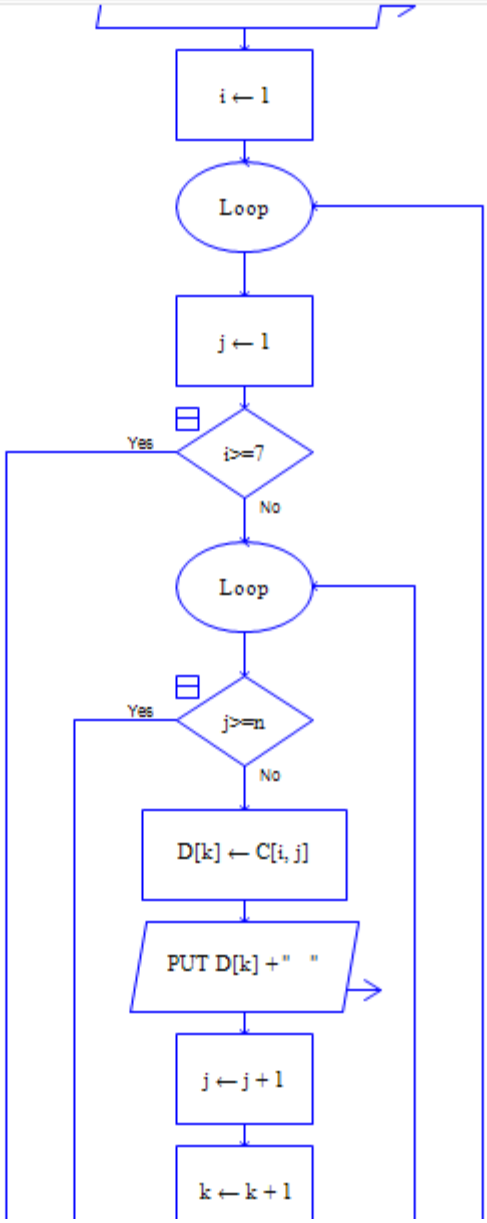

No
"Masukkan nilai A
["+i+"]"+"["+j+"] = "
GET A[i,j]
"Masukkan nilai B
["+i+"]"+"["+j+"] = "
GET B[i,j]
C[i, j] ← A[i, j]
C[i + 3, j] ← B[i, j]
j ← j + 1
i ← i + 1
i ← 1
Loop
j ← 1



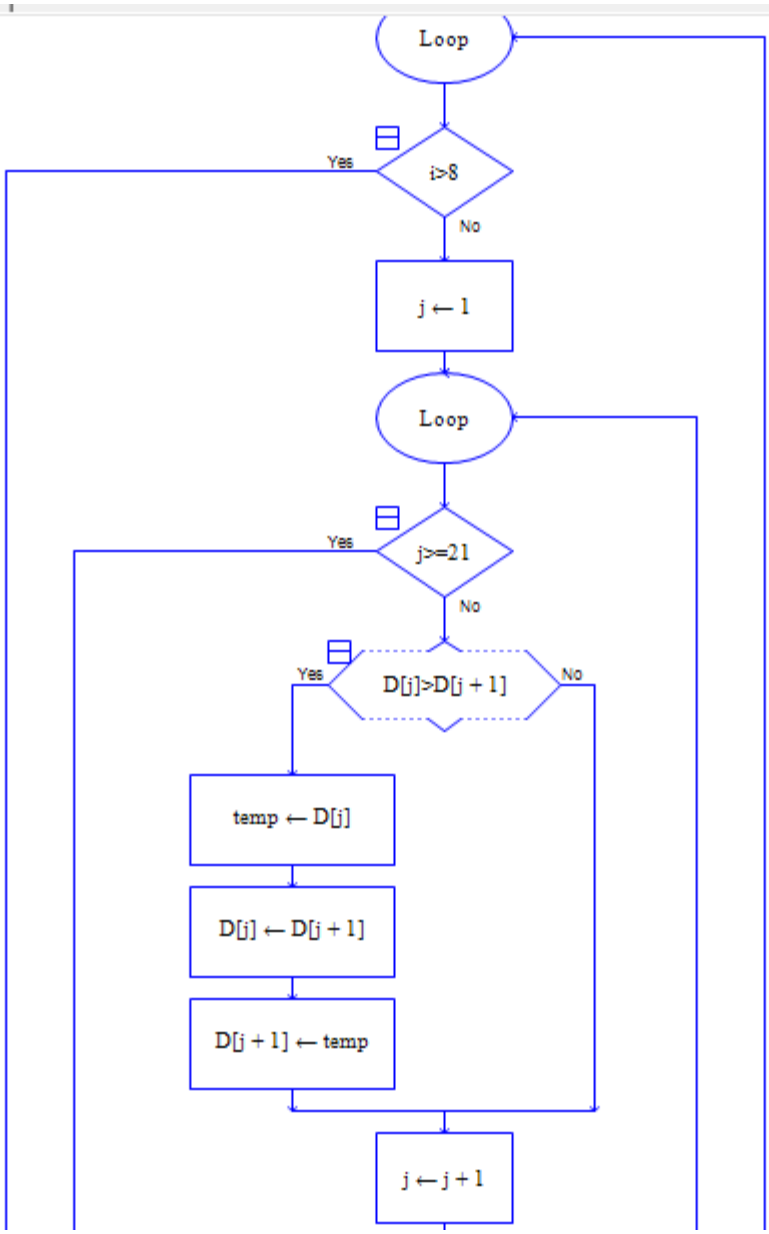
Untuk array A dan B sama



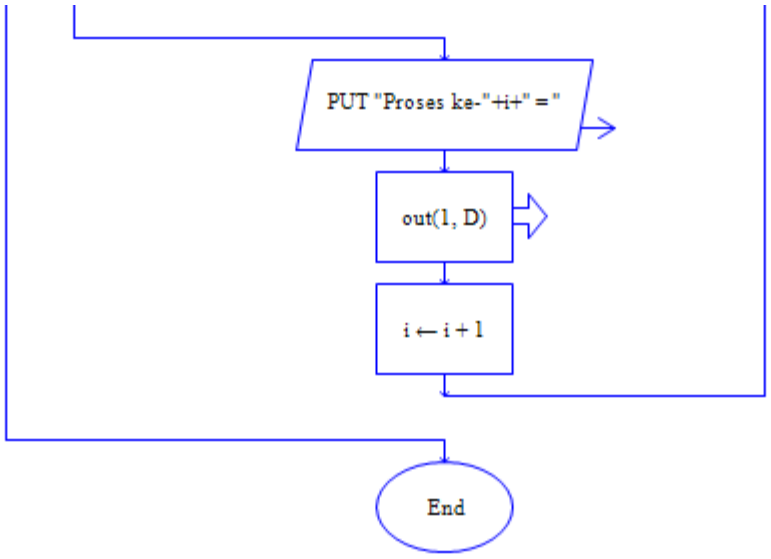
Array C



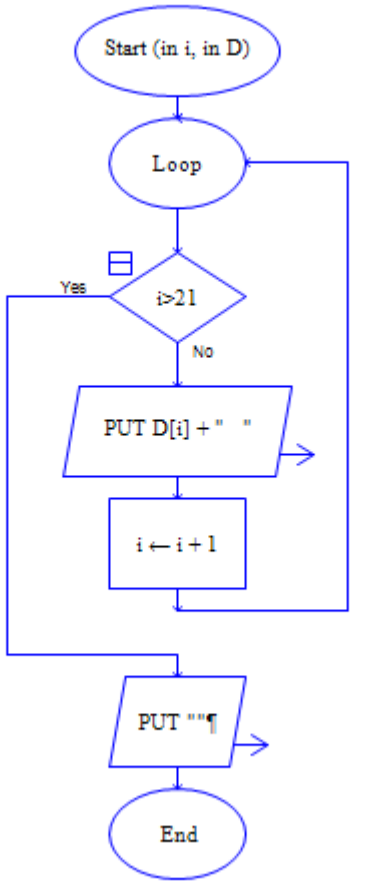
Menjadikan 1 dimensi


Loop
i>8
Yes
No
j ← 1
Loop
j>=21
Yes
No
D[j]>D[j + 1]
Yes
No
temp ← D[j]
D[j] ← D[j + 1]
D[j + 1] ← temp
j ← j + 1

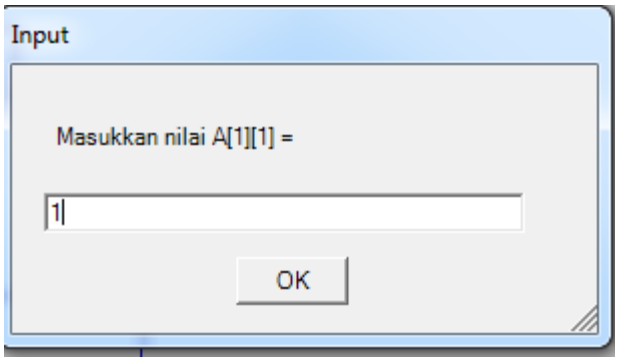
Bubble sort



main out



Output



Input

MasterConsole

Font Font Size Edit Help

```
=====Array A=====
1   3   5
7   9   11
13   15   17
=====Array b=====
2   4   6
8   10   12
14   16   18
=====Array AB=====
1   3   5
7   9   11
13   15   17
2   4   6
8   10   12
14   16   18
================================================================================
Menjadi 1 dimensi
1   3   5   7   9   11   13   15   17   2   4   6   8   10   12   14   16   18
================================================================================
Proses ke-1 = 0   0   0   1   3   5   7   9   11   13   15   2   4   6   8   10   12   14   16   17   18
Proses ke-2 = 0   0   0   1   3   5   7   9   11   13   2   4   6   8   10   12   14   15   16   17   18
Proses ke-3 = 0   0   0   1   3   5   7   9   11   2   4   6   8   10   12   13   14   15   16   17   18
Proses ke-4 = 0   0   0   1   3   5   7   9   2   4   6   8   10   11   12   13   14   15   16   17   18
Proses ke-5 = 0   0   0   1   3   5   7   2   4   6   8   9   10   11   12   13   14   15   16   17   18
Proses ke-6 = 0   0   0   1   3   5   2   4   6   7   8   9   10   11   12   13   14   15   16   17   18
Proses ke-7 = 0   0   0   1   3   2   4   5   6   7   8   9   10   11   12   13   14   15   16   17   18
Proses ke-8 = 0   0   0   1   2   3   4   5   6   7   8   9   10   11   12   13   14   15   16   17   18
----Run complete.  2011 symbols evaluated.----
```

Hasil

post8.h | main.cpp

```cpp
#include <iostream>
#include <iomanip>
#include <cstdlib>
using namespace std;
class gbm{
    private:
        int n= 3;
        int A[5][5],B[5][5],C[5][5],D[100];
        int temp;
        bool swap;
        int k = 3;
    public:
        int proses(){
            for(int i = 0; i <n ; i++){
                for(int j = 0; j<n; j++){
                        cout<<"Masukkan A ["<<i<<"] ["<<j<<"] = ";
                        cin>>A[i][j];
                        cout<<"Masukkan B ["<<i<<"] ["<<j<<"] = ";
                        cin>>B[i][j];
                        C[i][j]=A[i][j];
                        C[i+n][j]=B[i][j];
                }
                cout<<endl;
            }
            cout<<"\n===Array A===\n";
            for(int i = 0; i <n ; i++){
                cout<<"|";
                for(int j = 0; j<n; j++){
                        cout<<setw(3)<<A[i][j];
                }
                cout<<"  |"<<endl;
            }
            cout<<"\n===Array B===\n";
            for(int i = 0; i <n ; i++){
                cout<<"|";
                for(int j = 0; j<n; j++){
                        cout<<setw(3)<<B[i][j];
                }
                cout<<"  |"<<endl;
            }
            cout<<"\n===Array AB===\n";
            for(int i = 0; i <(n+n) ; i++){
```

post8.h | main.cpp

```
44              for(int j = 0; j<n; j++){
45                  cout<<setw(3)<<C[i][j];
46              }
47              cout<<"  |"<<endl;
48          }
49          cout<<"\n================================================================================\n";
50          cout<<"\nMenjadi 1 dimensi\n";
51          for(int i = 0; i <(n+n) ; i++){
52              for(int j = 0; j<n; j++){
53                  D[k]=C[i][j];
54                  cout<<setw(3)<<D[k];
55                  k++;
56              }
57          }
58          cout<<"\n================================================================================\n";
59          cout<<"\nDiurutkan\n";
60          cout<<"\n================================================================================\n";
61          for(int i = 0; i < 18; i++){
62              swap=false;
63              for(int j = 0;j < 17; j++){
64                  if(D[j]>D[j+1]){
65                      temp=D[j];
66                      D[j]=D[j+1];
67                      D[j+1]=temp;
68                  swap =true;
69                  }
70              }
71              if(swap==false){
72                  break;
73              }
74              cout<<"Proses ke-"<<i+1<<"= ";
75              output();
76          }
77      }
78      int output(){
79          for(int i = 0; i < 18;i++){
80              cout<<setw(3)<<D[i];
81          }
82          cout<<endl;
83      }
84  };
```

Membuat post8.h

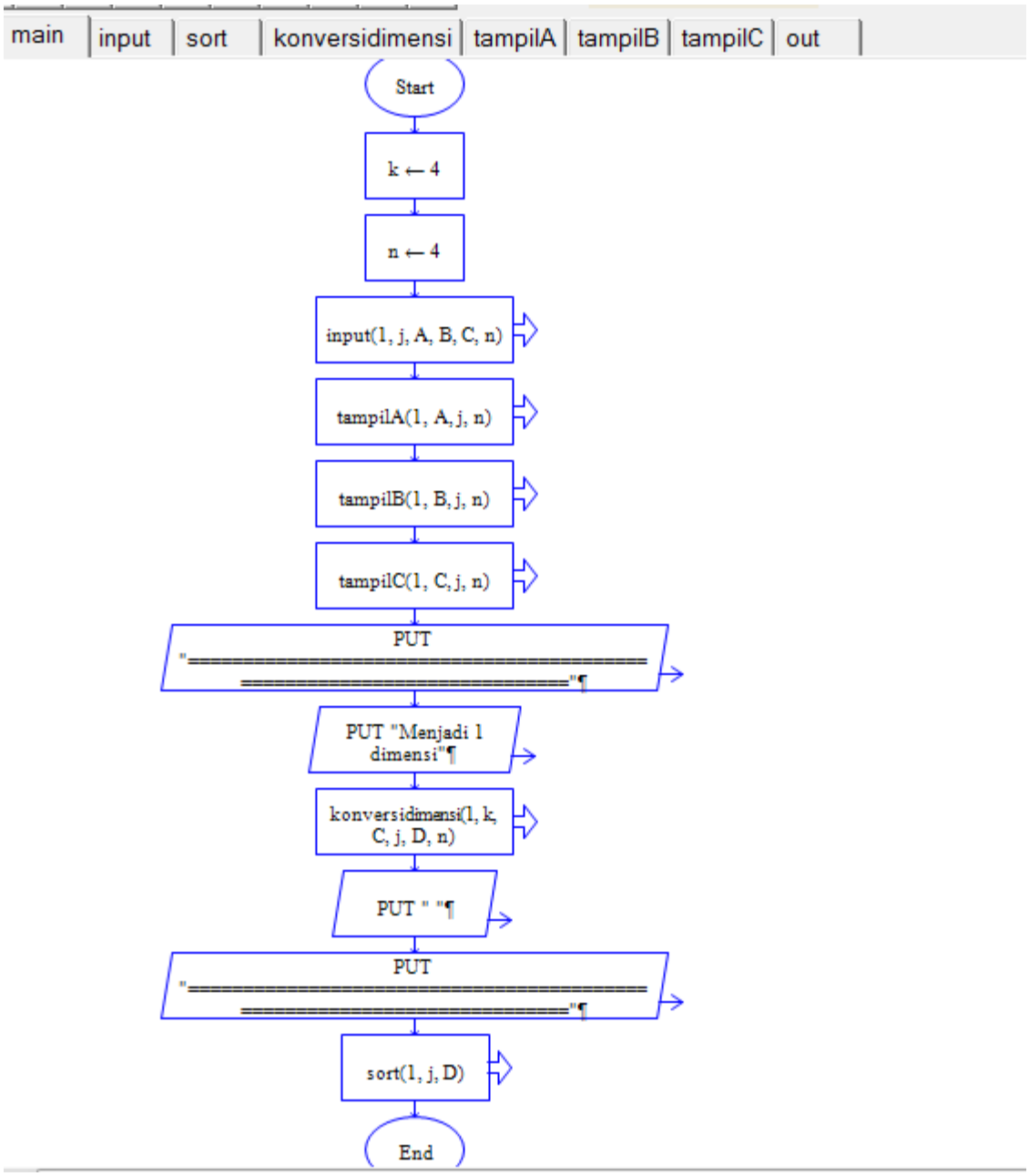
post8.h | main.cpp

```
1   #include "post8.h"
2   main(){
3       gbm cek;
4       cek.proses();
5       cout<<endl;
6       return 0;
7   }
```

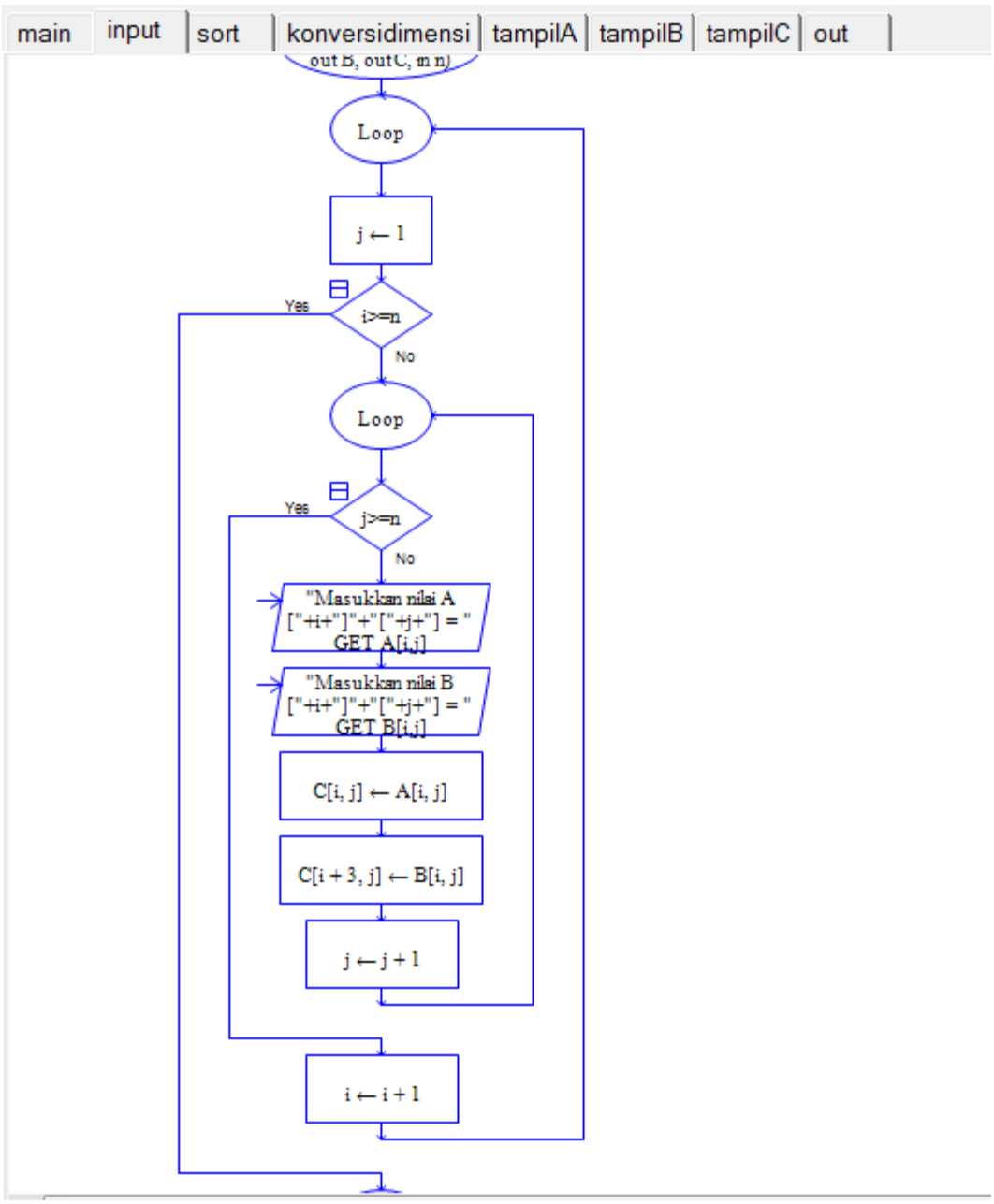
Main


E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\main.exe
===Array A===
| 1 3 5 |
| 7 9 11 |
| 13 15 17 |
===Array B===
| 2 4 6 |
| 8 10 12 |
| 14 16 18 |
===Array AB===
| 1 3 5 |
| 7 9 11 |
| 13 15 17 |
| 2 4 6 |
| 8 10 12 |
| 14 16 18 |
Menjadi 1 dimensi
1 3 5 7 9 11 13 15 17 2 4 6 8 10 12 14 16 18
Diurutkan
Proses ke-1= 14 16 1 3 5 7 9 11 13 15 17 2 4 6 8 10 12 18
Proses ke-2= 14 1 3 5 7 9 11 13 15 16 2 4 6 8 10 12 17 18
Proses ke-3= 1 3 5 7 9 11 13 14 15 2 4 6 8 10 12 16 17 18
Proses ke-4= 1 3 5 7 9 11 13 14 2 4 6 8 10 12 15 16 17 18
Proses ke-5= 1 3 5 7 9 11 13 2 4 6 8 10 12 14 15 16 17 18
Proses ke-6= 1 3 5 7 9 11 2 4 6 8 10 12 13 14 15 16 17 18
Proses ke-7= 1 3 5 7 9 2 4 6 8 10 11 12 13 14 15 16 17 18
Proses ke-8= 1 3 5 7 2 4 6 8 9 10 11 12 13 14 15 16 17 18
Proses ke-9= 1 3 5 2 4 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-10= 1 3 2 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-11= 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Process exited after 11.33 seconds with return value 0
Press any key to continue . . .

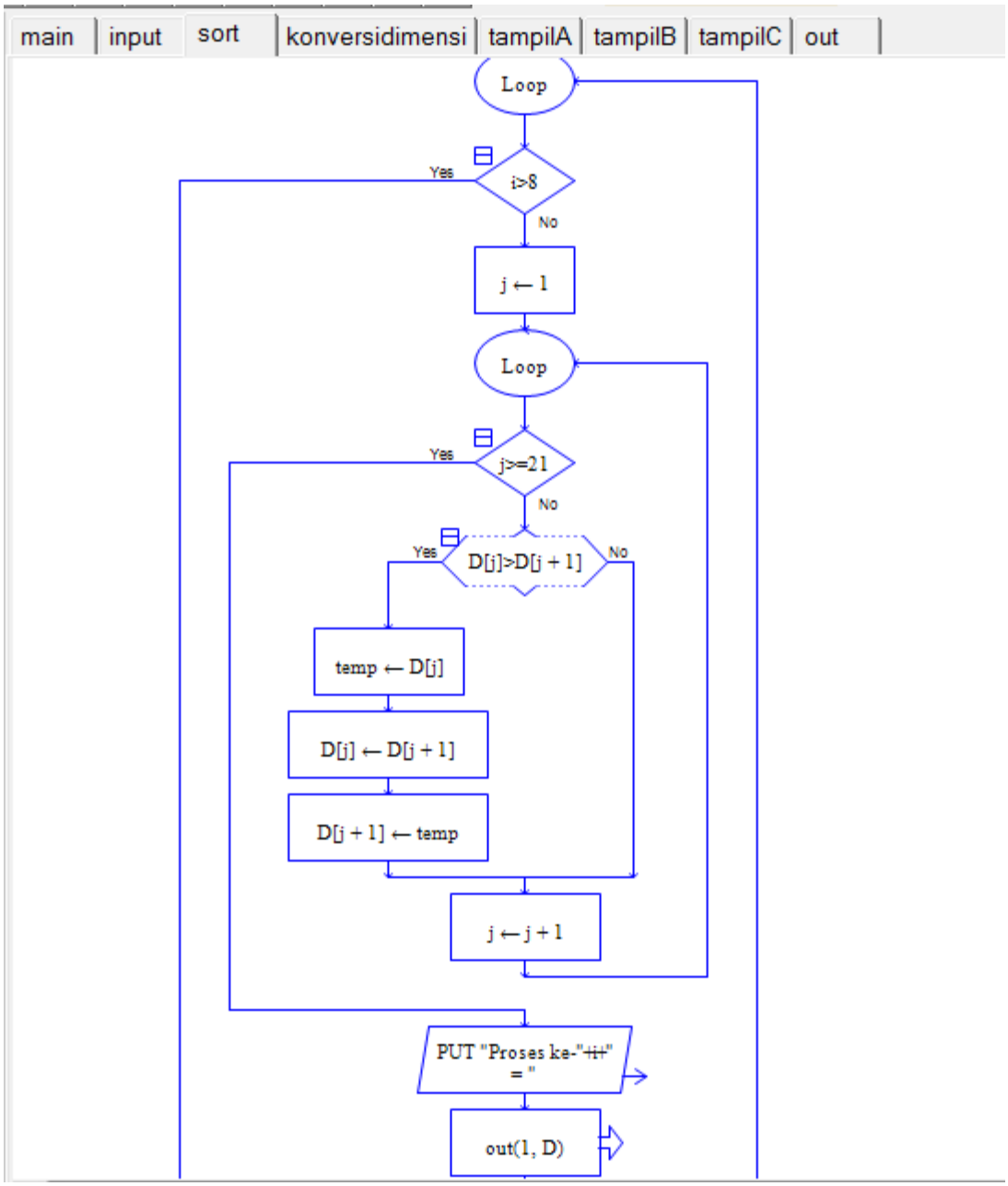
Output


main
input
sort
konversidimensi
tampilA
tampilB
tampilC
out
Start
k ← 4
n ← 4
input(1, j, A, B, C, n)
tampilA(1, A, j, n)
tampilB(1, B, j, n)
tampilC(1, C, j, n)
PUT "==========¶
PUT "Menjadi 1 dimensi"¶
konversidimensi(1, k, C, j, D, n)
PUT " "¶
PUT "==========¶
sort(1, j, D)
End

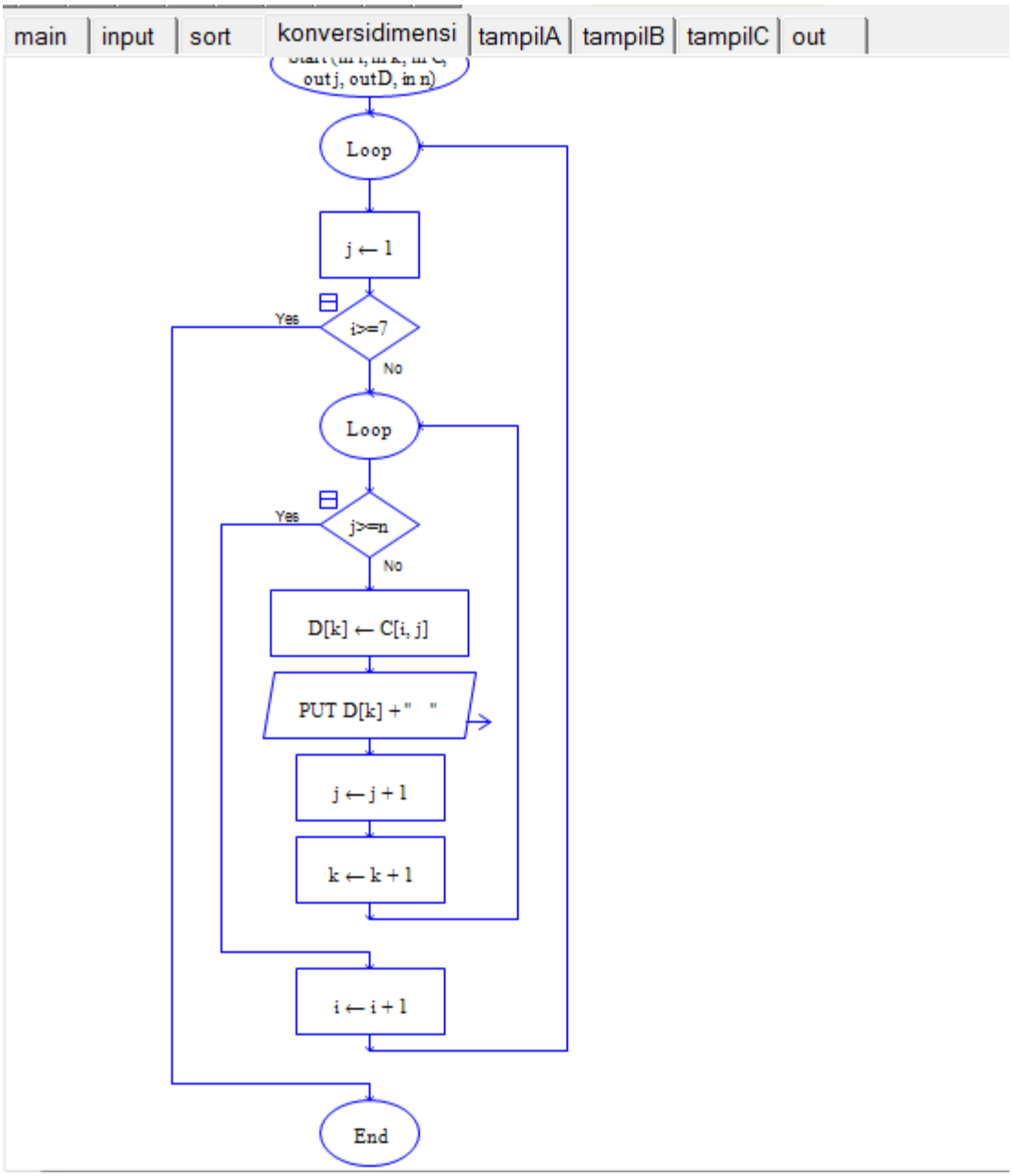
Main


main
input
sort
konversidimensi
tampilA
tampilB
tampilC
out
out B, outC, m n)
Loop
j ← 1
Yes
i>=n
No
Loop
Yes
j>=n
No
"Masukkan nilai A ["+i+"]"+"["+j+"] = "
GET A[i,j]
"Masukkan nilai B ["+i+"]"+"["+j+"] = "
GET B[i,j]
C[i, j] ← A[i, j]
C[i + 3, j] ← B[i, j]
j ← j + 1
i ← i + 1

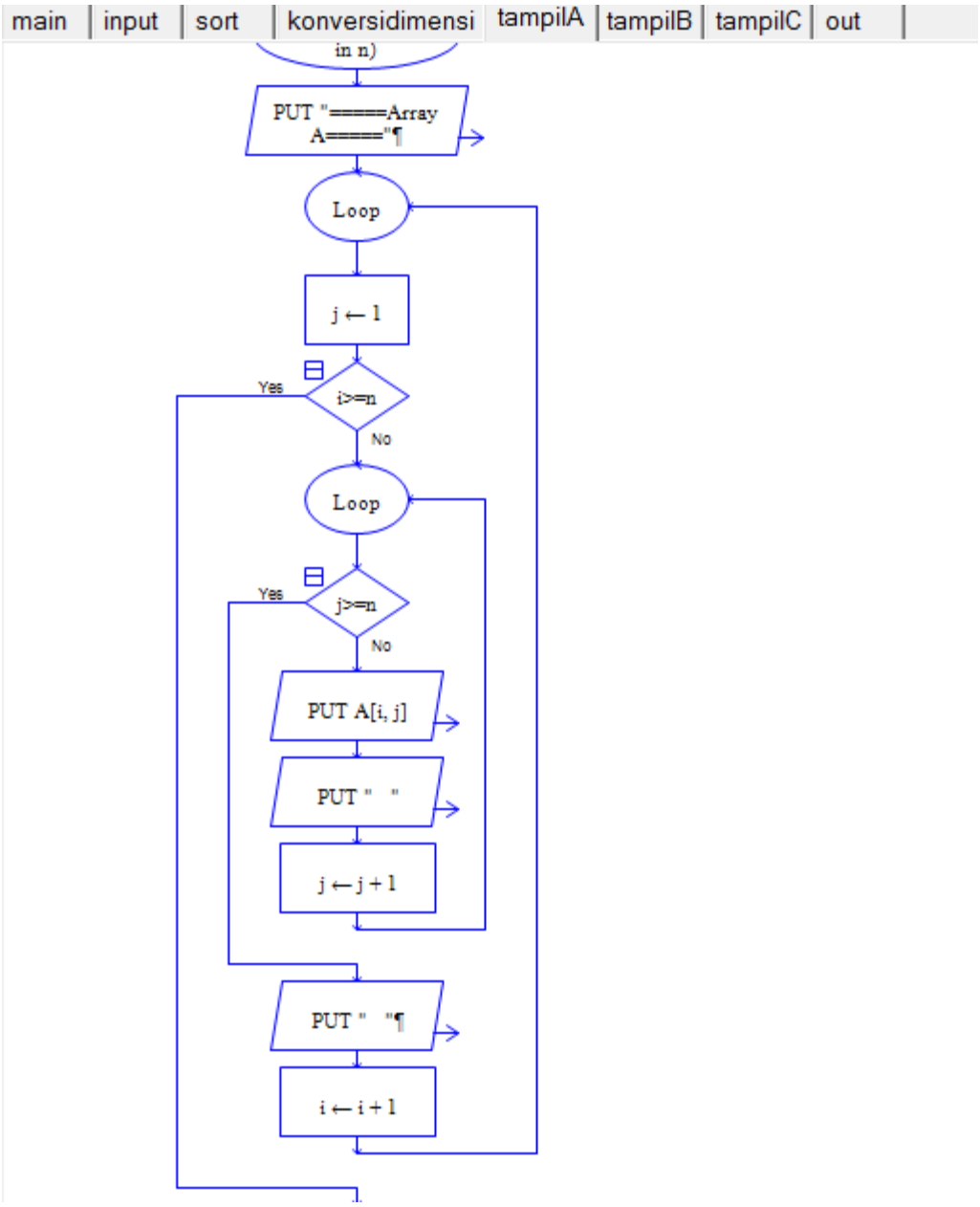
Input


main
input
sort
konversidimensi
tampilA
tampilB
tampilC
out
Loop
Yes
i>8
No
j ← 1
Loop
Yes
j>=21
No
Yes
D[j]>D[j + 1]
No
temp ← D[j]
D[j] ← D[j + 1]
D[j + 1] ← temp
j ← j + 1
PUT "Proses ke-"+i+" = "
out(1, D)

Bubble sort

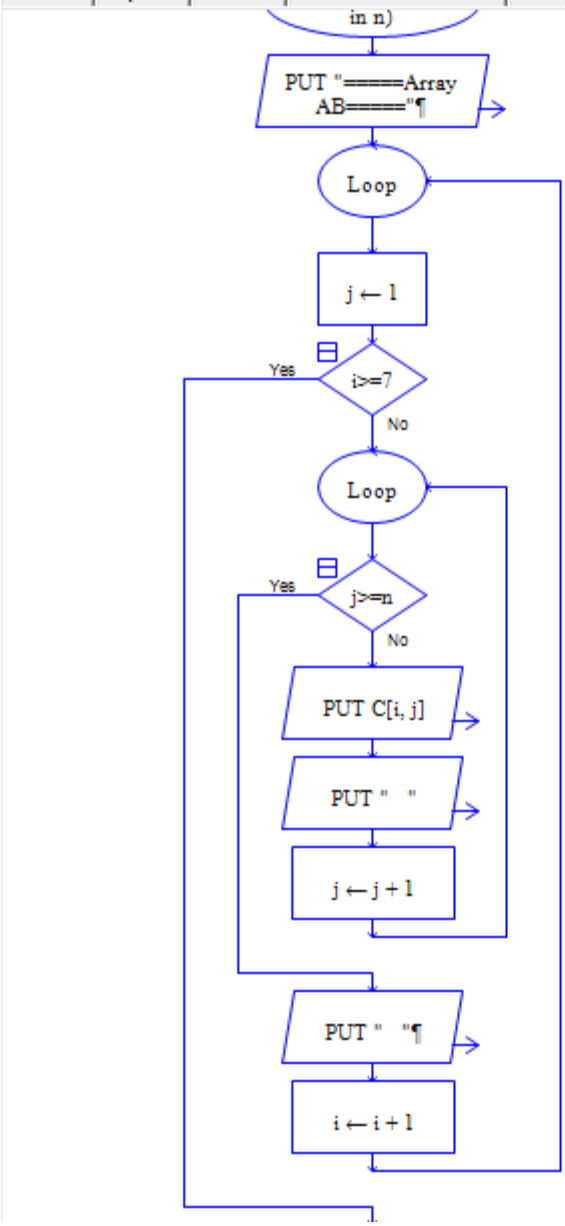


Menjadi 1 dimensi

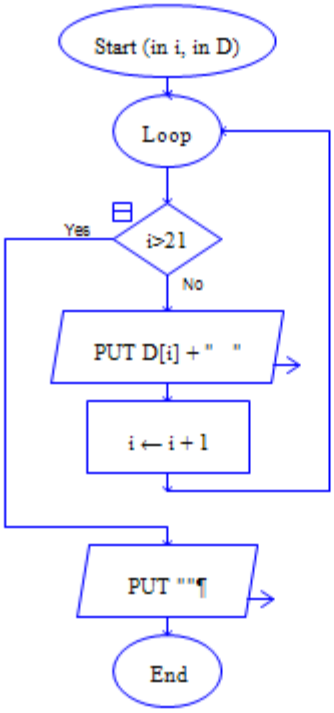


Tampil a=tampil b

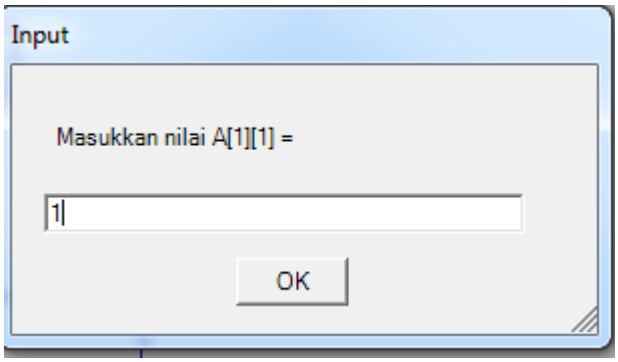
main | input | sort | konversidimensi | tampilA | tampilB | tampilC | out



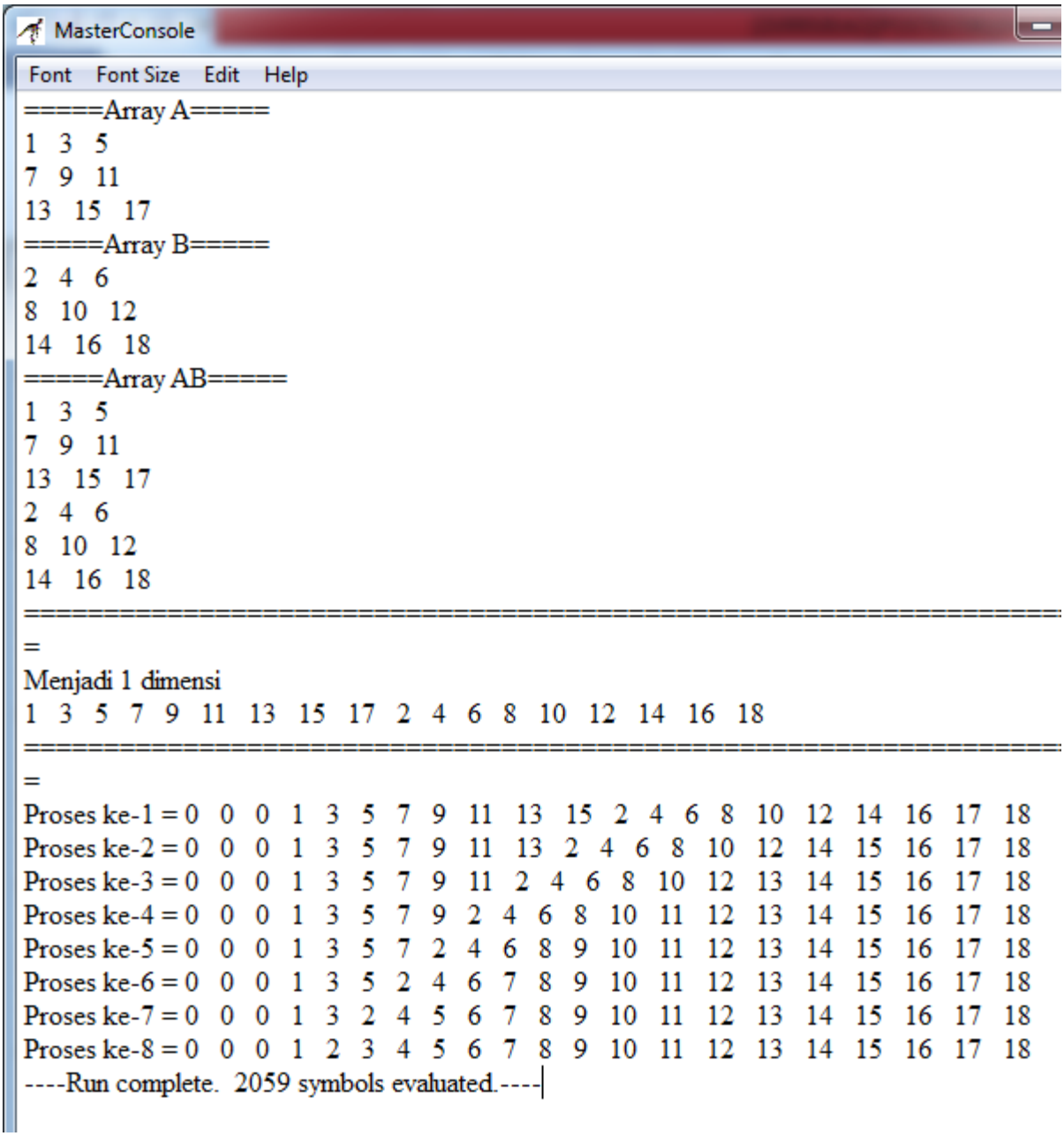
main | input | sort | konversidimensi | tampilA | tampilB | tampilC | out



Out



Input


MasterConsole
Font Font Size Edit Help
=====Array A=====
1 3 5
7 9 11
13 15 17
=====Array B=====
2 4 6
8 10 12
14 16 18
=====Array AB=====
1 3 5
7 9 11
13 15 17
2 4 6
8 10 12
14 16 18
==========
=
Menjadi 1 dimensi
1 3 5 7 9 11 13 15 17 2 4 6 8 10 12 14 16 18
==========
=
Proses ke-1 = 0 0 0 1 3 5 7 9 11 13 15 2 4 6 8 10 12 14 16 17 18
Proses ke-2 = 0 0 0 1 3 5 7 9 11 13 2 4 6 8 10 12 14 15 16 17 18
Proses ke-3 = 0 0 0 1 3 5 7 9 11 2 4 6 8 10 12 13 14 15 16 17 18
Proses ke-4 = 0 0 0 1 3 5 7 9 2 4 6 8 10 11 12 13 14 15 16 17 18
Proses ke-5 = 0 0 0 1 3 5 7 2 4 6 8 9 10 11 12 13 14 15 16 17 18
Proses ke-6 = 0 0 0 1 3 5 2 4 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-7 = 0 0 0 1 3 2 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Proses ke-8 = 0 0 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
----Run complete. 2059 symbols evaluated.----

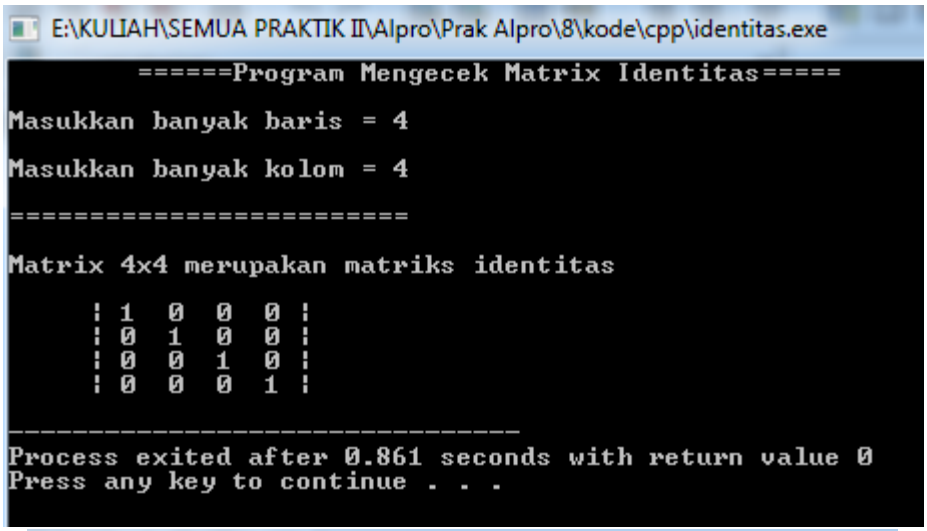
Hasil

identitas.cpp

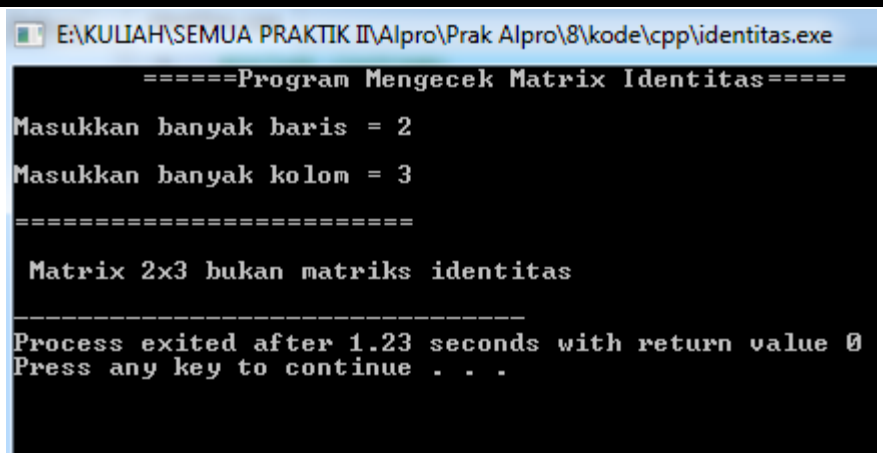
```cpp
#include <iostream>
using namespace std;
main(){
    int baris,kolom;
    cout<<"\t======Program Mengecek Matrix Identitas=====\n";
    cout<<"\nMasukkan banyak baris = ";cin>>baris;
    cout<<"\nMasukkan banyak kolom = ";cin>>kolom;
    cout<<"\n=========================\n";
    if(baris==kolom){
        cout<<"\nMatrix "<<baris<<"x"<<kolom<<" merupakan matriks identitas\n\n";
        for(int i = 0; i < baris; i++){
        cout<<"     |";
        for(int j = 0; j < kolom; j++){
            if(i==j){
                cout<<" 1 ";
            }
            else{
                cout<<" 0 ";
            }
        }
        cout<<"|"<<endl;
    }
    }
    else{
        cout<<"\n Matrix "<<baris<<"x"<<kolom<<" bukan matriks identitas\n";
    }
}
```

Mengecek matriks bujur sangakar(baris dan kolom sama)

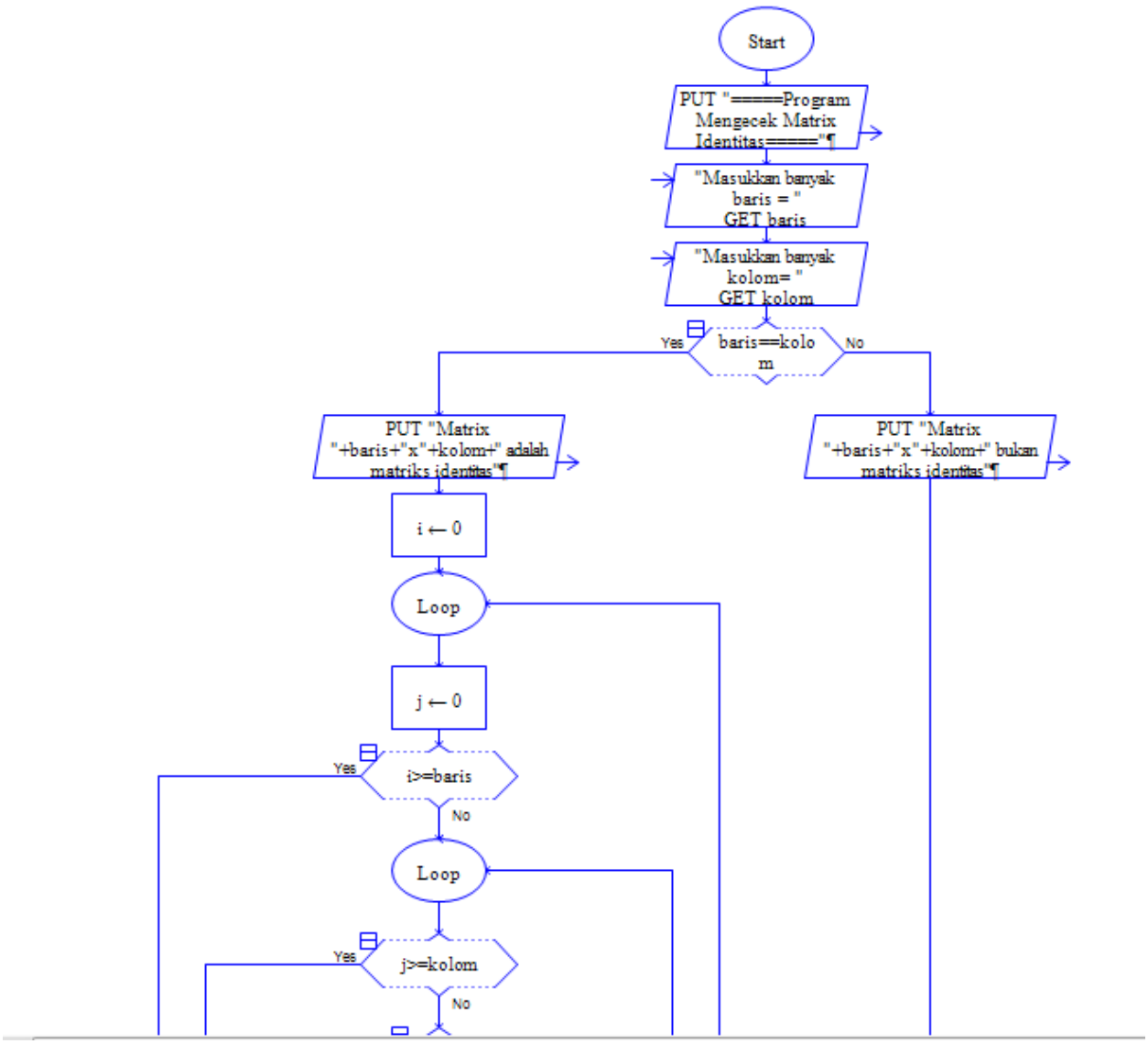
```
E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\identitas.exe
        ======Program Mengecek Matrix Identitas=====

Masukkan banyak baris = 3

Masukkan banyak kolom = 3

=========================

Matrix 3x3 merupakan matriks identitas

     | 1  0  0 |
     | 0  1  0 |
     | 0  0  1 |

--------------------------------
Process exited after 1.754 seconds with return value 0
Press any key to continue . . .
```


E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\identitas.exe
======Program Mengecek Matrix Identitas=====
Masukkan banyak baris = 4
Masukkan banyak kolom = 4
========================
Matrix 4x4 merupakan matriks identitas
¦ 1 0 0 0 ¦
¦ 0 1 0 0 ¦
¦ 0 0 1 0 ¦
¦ 0 0 0 1 ¦

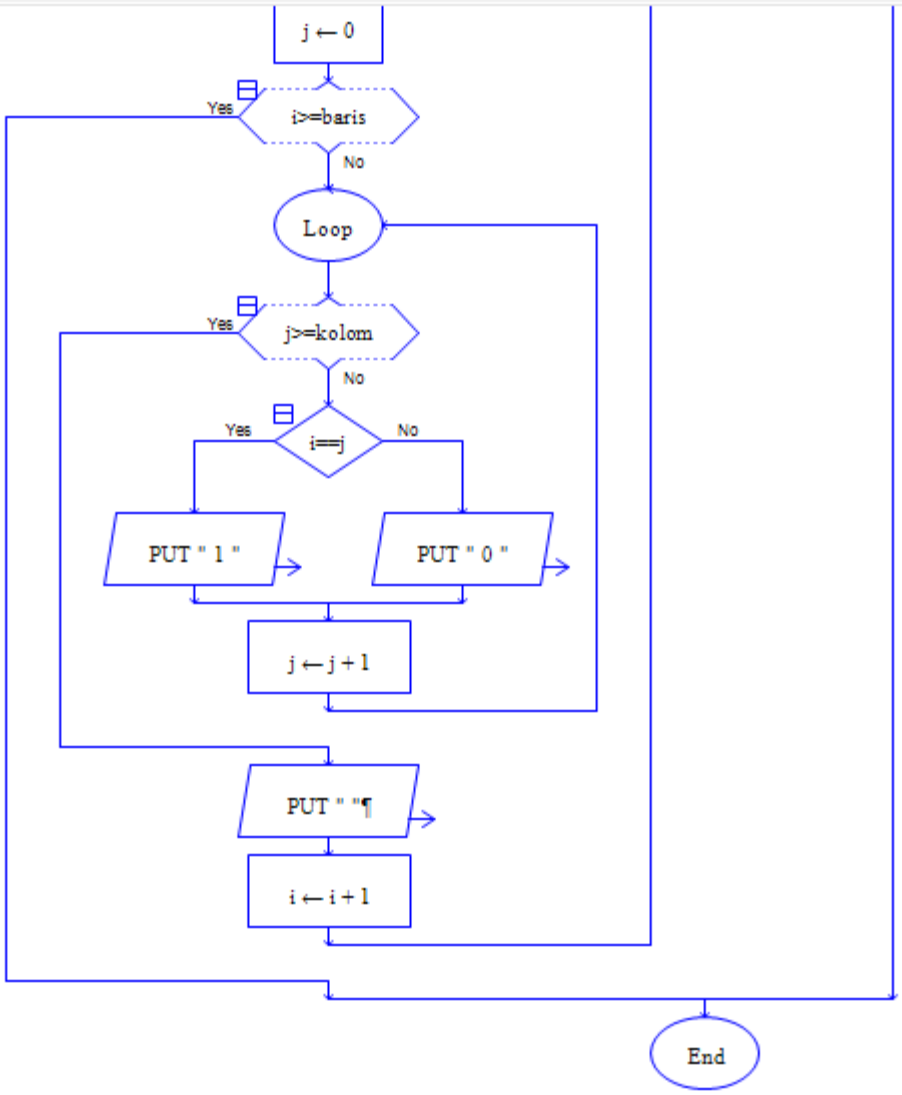
Process exited after 0.861 seconds with return value 0
Press any key to continue . . .

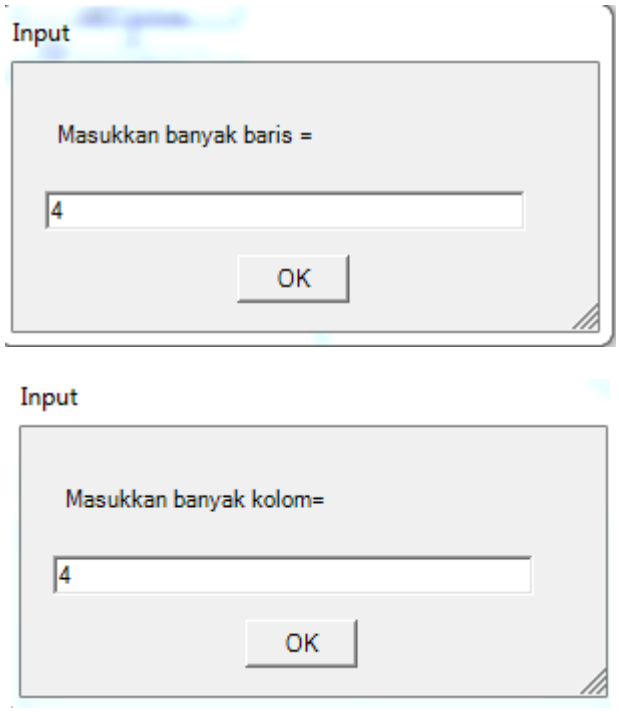

E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\identitas.exe
======Program Mengecek Matrix Identitas=====
Masukkan banyak baris = 2
Masukkan banyak kolom = 3
========================
Matrix 2x3 bukan matriks identitas

Process exited after 1.23 seconds with return value 0
Press any key to continue . . .

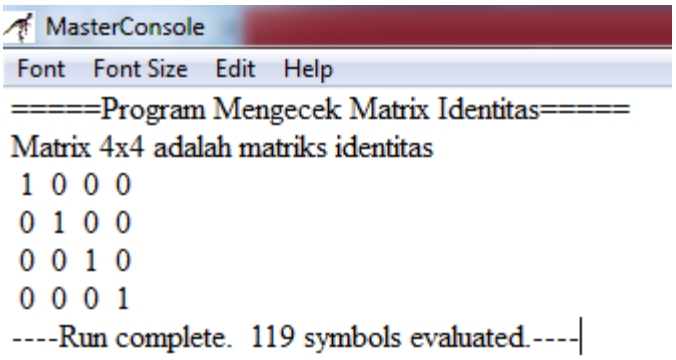

Start
PUT "======Program Mengecek Matrix Identitas======"¶
"Masukkan banyak baris = "
GET baris
"Masukkan banyak kolom= "
GET kolom
baris==kolom
Yes
No
PUT "Matrix "+baris+"x"+kolom+" adalah matriks identitas"¶
PUT "Matrix "+baris+"x"+kolom+" bukan matriks identitas"¶
i ← 0
Loop
j ← 0
i>=baris
Yes
No
Loop
j>=kolom
Yes
No

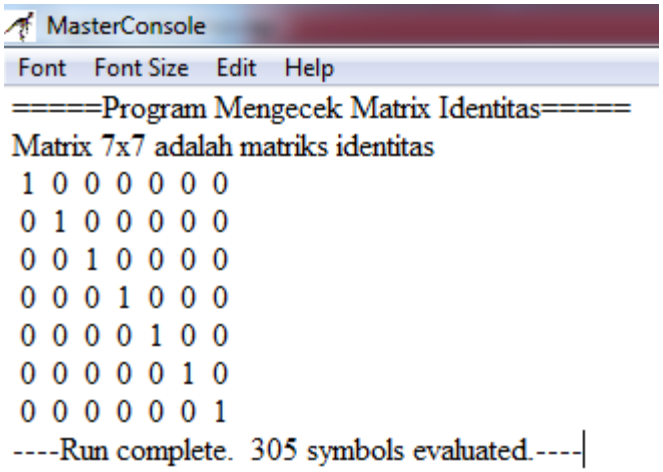
main

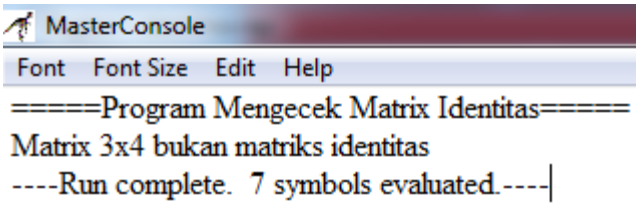

j ← 0
Yes
i>=baris
No
Loop
Yes
j>=kolom
No
Yes
i==j
No
PUT " 1 "
PUT " 0 "
j ← j + 1
PUT " "¶
i ← i + 1
End



Memasukkan baris dan kolom


MasterConsole
Font Font Size Edit Help
=====Program Mengecek Matrix Identitas=====
Matrix 4x4 adalah matriks identitas
1 0 0 0
0 1 0 0
0 0 1 0
0 0 0 1
----Run complete. 119 symbols evaluated.----


MasterConsole
Font Font Size Edit Help
=====Program Mengecek Matrix Identitas=====
Matrix 7x7 adalah matriks identitas
1 0 0 0 0 0 0
0 1 0 0 0 0 0
0 0 1 0 0 0 0
0 0 0 1 0 0 0
0 0 0 0 1 0 0
0 0 0 0 0 1 0
0 0 0 0 0 0 1
----Run complete. 305 symbols evaluated.----


MasterConsole
Font Font Size Edit Help
=====Program Mengecek Matrix Identitas=====
Matrix 3x4 bukan matriks identitas
----Run complete. 7 symbols evaluated.----