LAPORAN

ALGORITMA PEMORGRAMAN

DISUSUN OLEH

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SLOT SELASA 13.30 – KELAS G

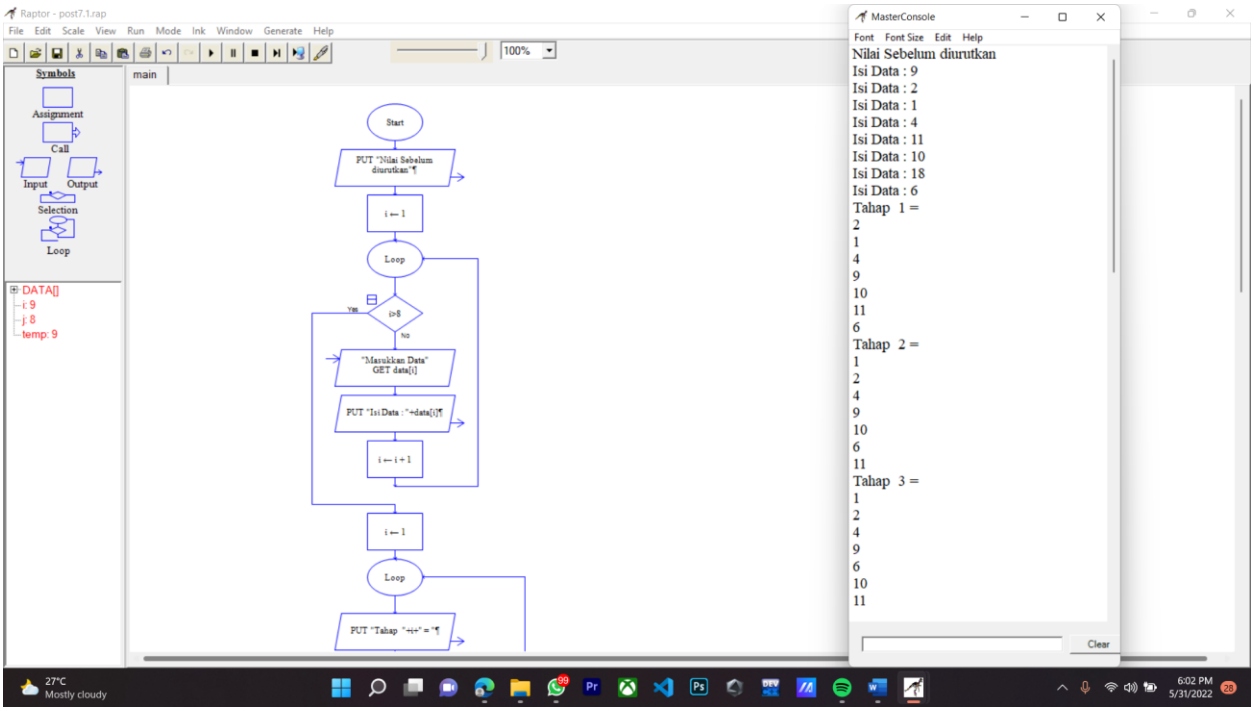
PROGRAM STUDI INFORMATIKA FAKULTAS TEKNOLOGI INDUSTRI

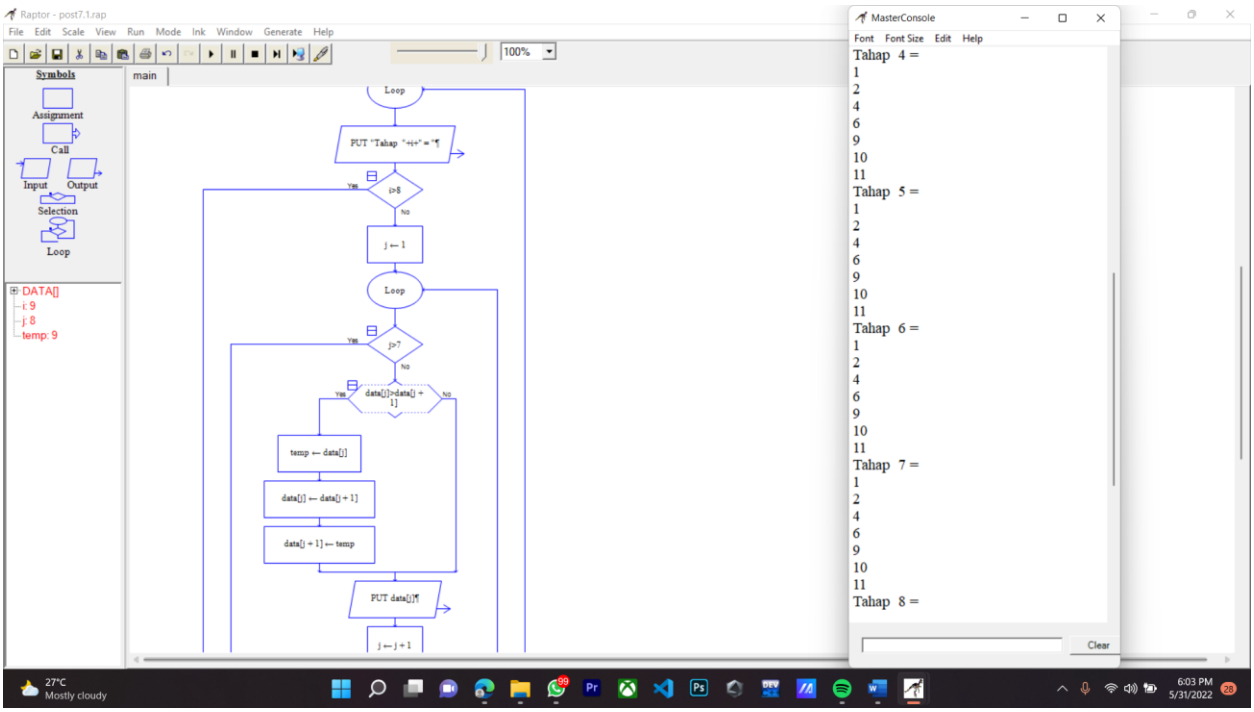
UNIVERSITAS AHMAD DAHLAN

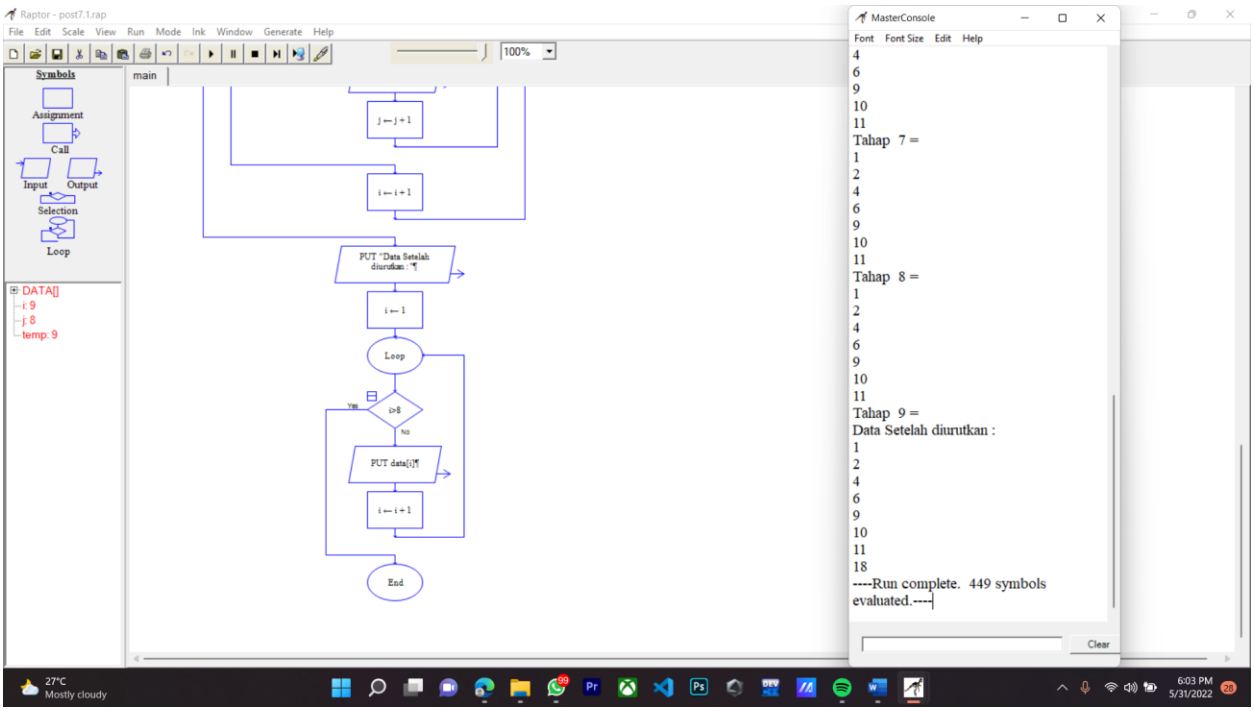
TAHUN AJARAN 2021/2022

POSTEST 7 : SORTING & SEARCHING

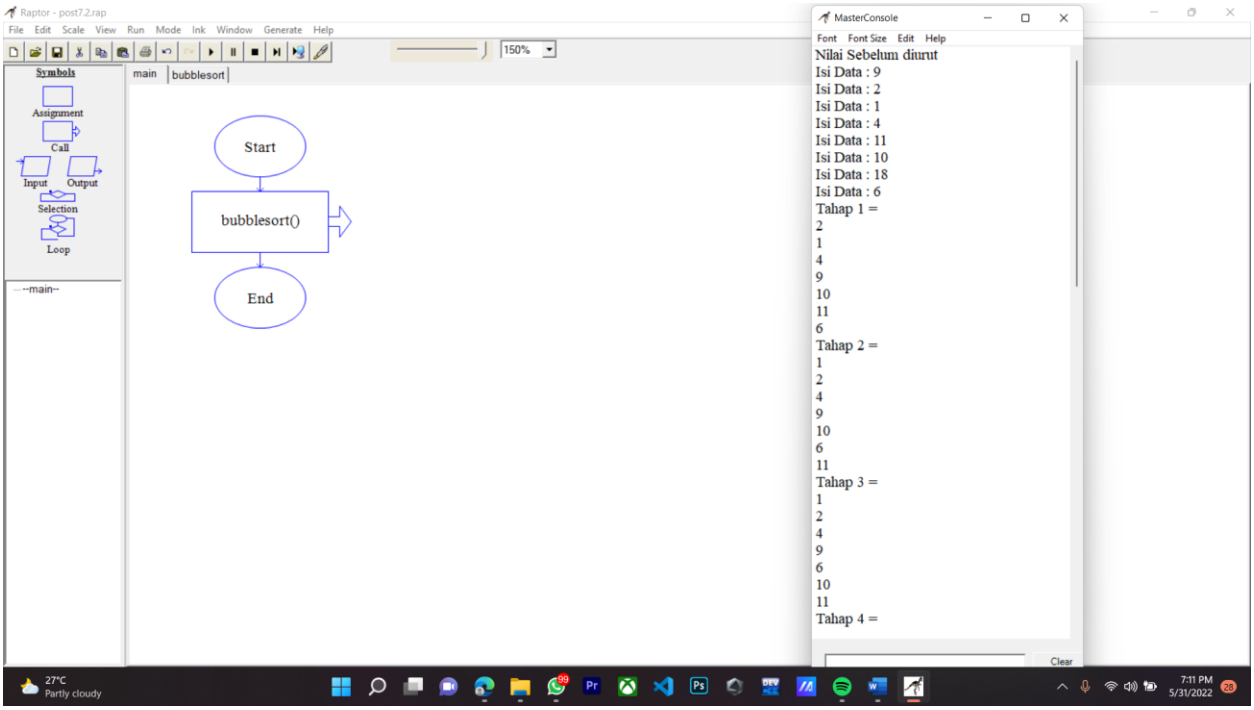
1. Buat lah flowchart untuk mengurutkan deret bilangan **9 2 1 4 11 10 18 6** dengan buble sort dan tampilkan tiap langkah sortingnya secara manual.

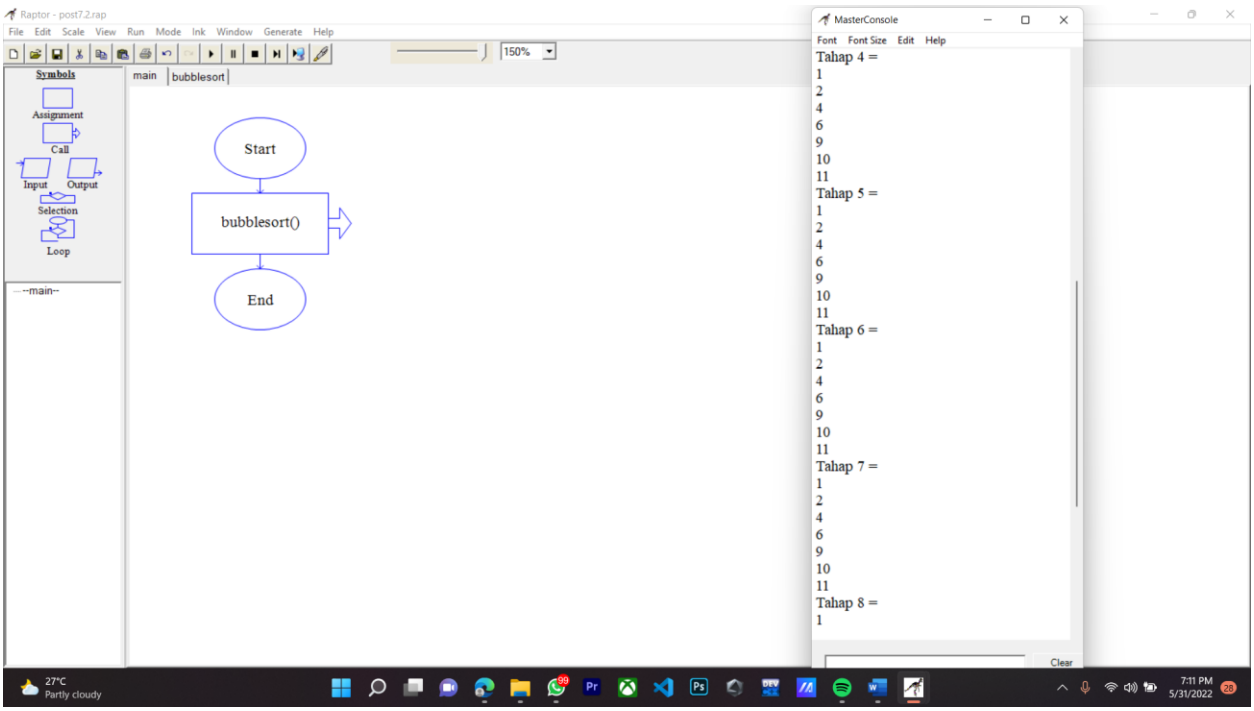


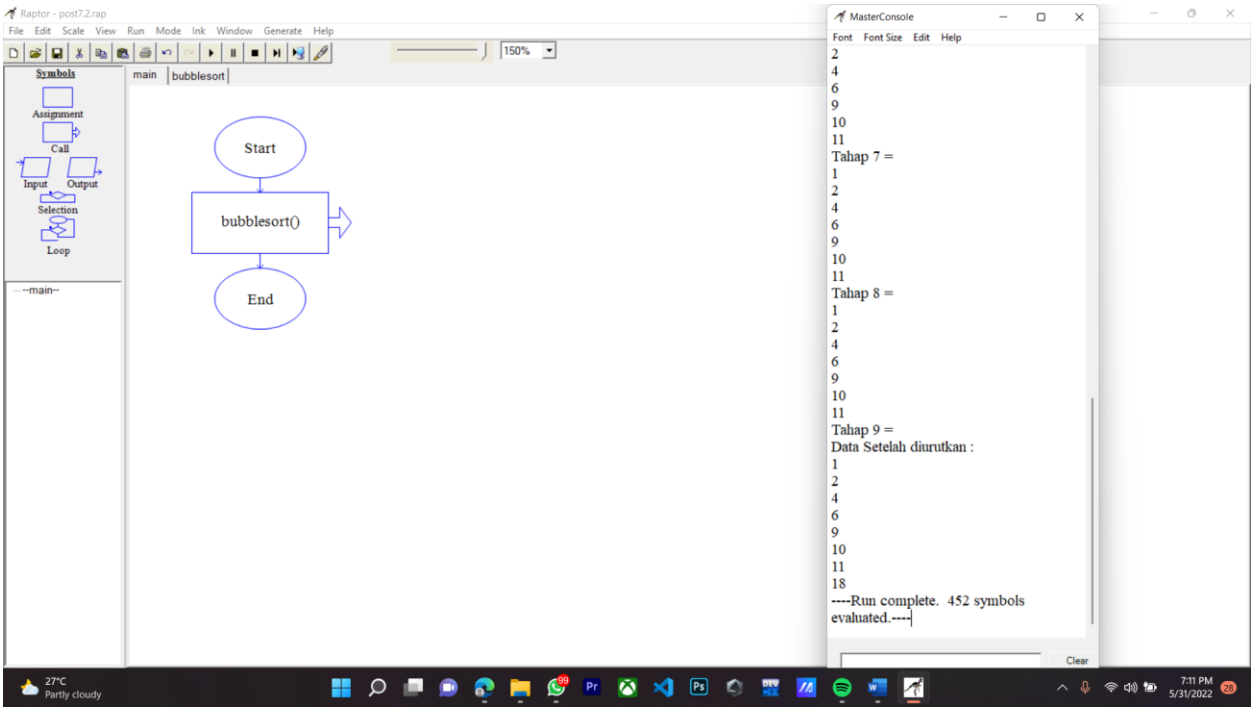




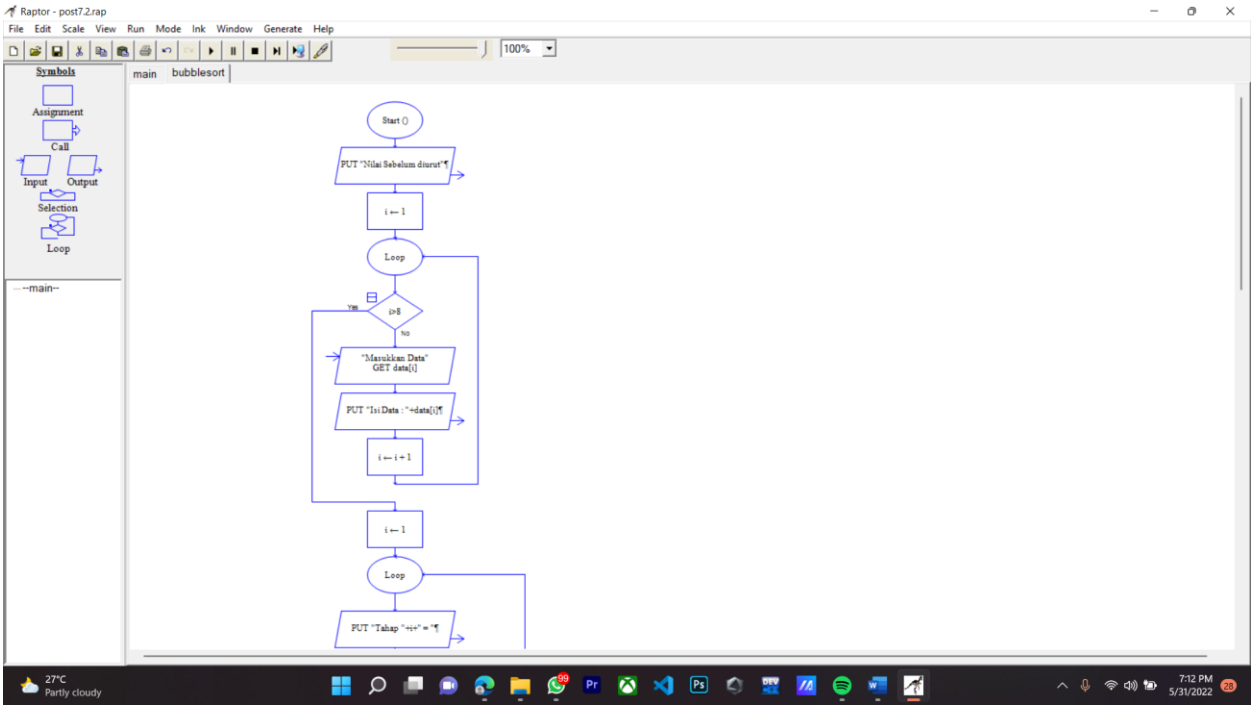
2. Seperti nomor 1, gunakan subprogam dalam flowchart untuk mengurutkan deret bilangan **9 2 1 4 11 10 18 6** dengan buble sort dan tampilkan tiap langkah sortingnya secara manual.

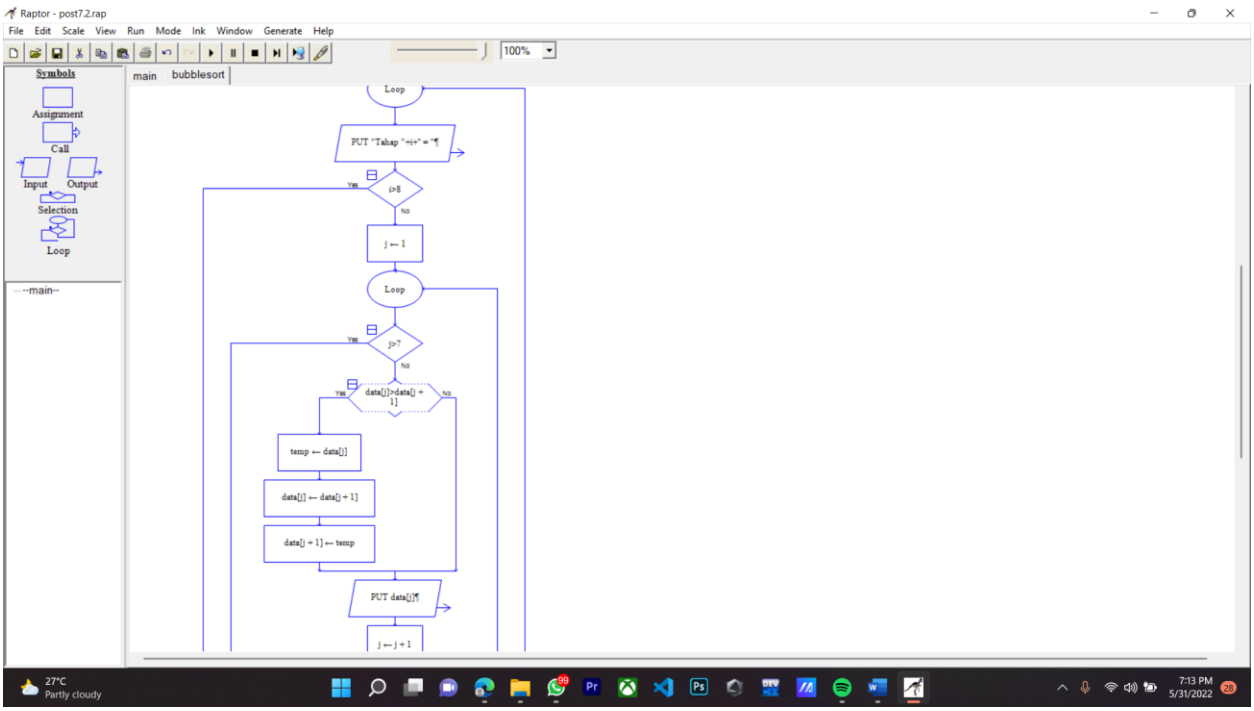


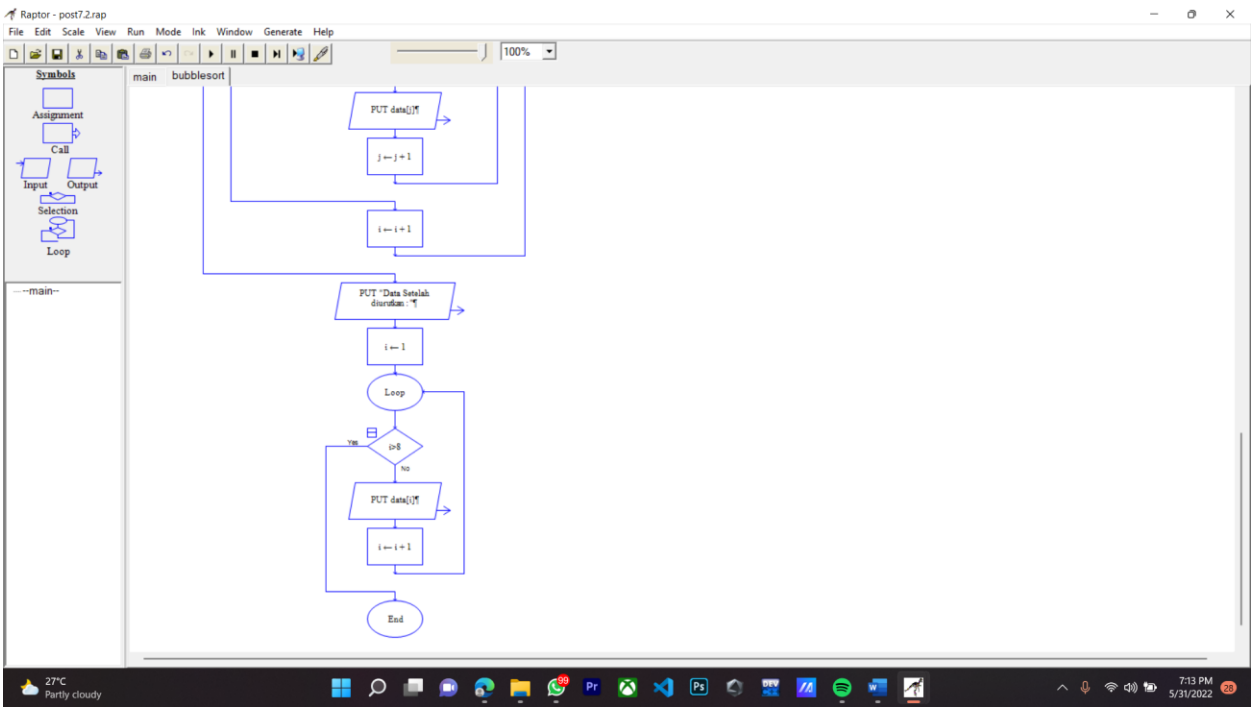

Raptor - post7.2.rap
File Edit Scale View Run Mode Ink Window Generate Help
150%
Symbols
Assignment
Call
Input
Output
Selection
Loop
--main--
main
bubblesort
Start
bubblesort()
End
MasterConsole
Font Font Size Edit Help
Tahap 4 =
1
2
4
6
9
10
11
Tahap 5 =
1
2
4
6
9
10
11
Tahap 6 =
1
2
4
6
9
10
11
Tahap 7 =
1
2
4
6
9
10
11
Tahap 8 =
1
Clear
27°C
Partly cloudy
7:11 PM
5/31/2022


Raptor - post7.2.rap
File Edit Scale View Run Mode Ink Window Generate Help
150%
Symbols
Assignment
Call
Input
Output
Selection
Loop
--main--
main
bubblesort
Start
bubblesort()
End
MasterConsole
Font Font Size Edit Help
2
4
6
9
10
11
Tahap 7 =
1
2
4
6
9
10
11
Tahap 8 =
1
2
4
6
9
10
11
Tahap 9 =
Data Setelah diurutkan :
1
2
4
6
9
10
11
18
----Run complete. 452 symbols evaluated.----
Clear
27°C
Partly cloudy
7:11 PM
5/31/2022

Sub-program


Raptor - post7.2.rap
File Edit Scale View Run Mode Ink Window Generate Help
100%
Symbols
Assignment
Call
Input
Output
Selection
Loop
--main--
main
bubblesort
Start ()
PUT "Nilai Sebelum diurut"¶
i ← 1
Loop
i>8
Yes
No
"Masukkan Data"
GET data[i]
PUT "Isi Data : "+data[i]¶
i ← i + 1
i ← 1
Loop
PUT "Tahap "+i+" = "¶
27°C
Partly cloudy
7:12 PM
5/31/2022


Raptor - post7.2.rap
File Edit Scale View Run Mode Ink Window Generate Help
100%
Symbols
Assignment
Call
Input
Output
Selection
Loop
--main--
main
bubblesort
Loop
PUT "Tahap "+i+" = "¶
i>8
Yes
No
j ← 1
Loop
j>7
Yes
No
data[j]>data[j + 1]
Yes
No
temp ← data[j]
data[j] ← data[j + 1]
data[j + 1] ← temp
PUT data[j]¶
j ← j + 1
27°C
Partly cloudy
7:13 PM
5/31/2022



3. Konversikan hasil dari flowchart nomor 1 dan 2 menjadi progam C++

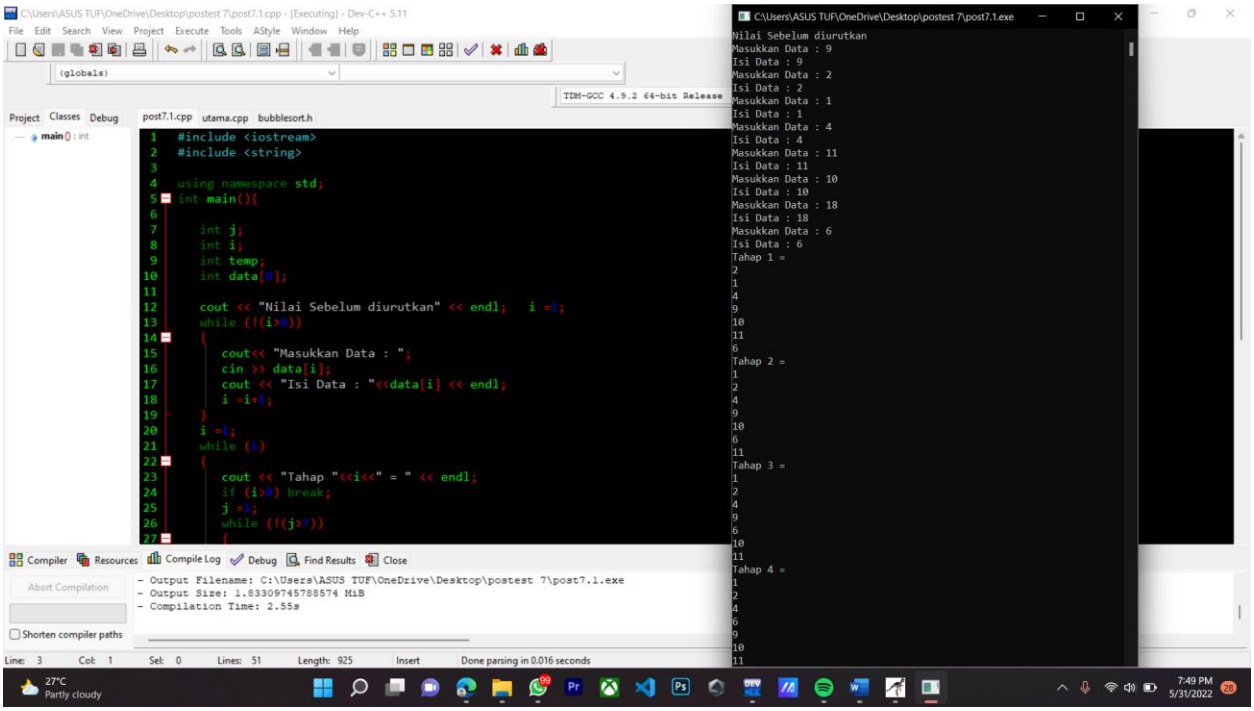
Nomor 1 :

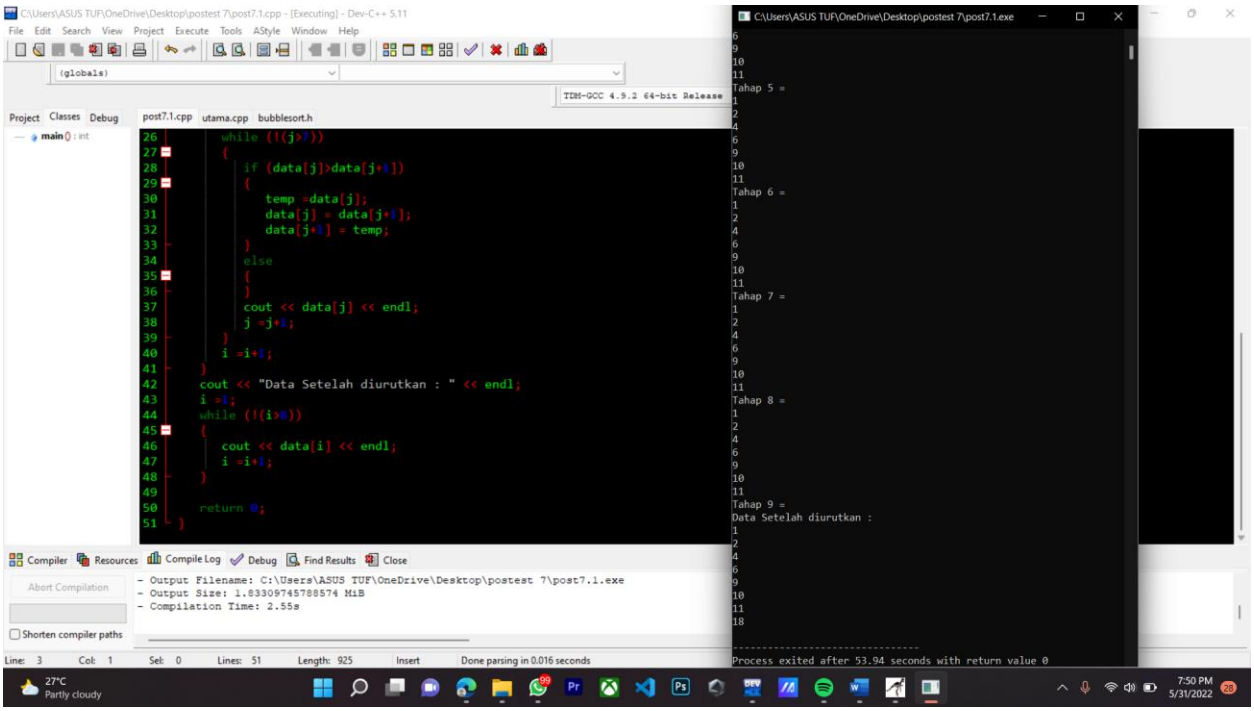
Source Code:

```
  while (!(j>7))
  {
    if (data[j]>data[j+1])
    {
      temp =data[j];
      data[j] = data[j+1];
      data[j+1] = temp;
    }
    else
    {
    }
    cout << data[j] << endl;
                j =j+1;
  }
  i =i+1;
}
cout << "Data Setelah diurutkan : " << endl;
i =1;
while (!(i>8))
{
  cout << data[i] << endl;
```

```
            i =i+1;
    }

    return 0;
}
```

Setelah di **RUN**





Nomor 2 :

Source code:

utama.cpp

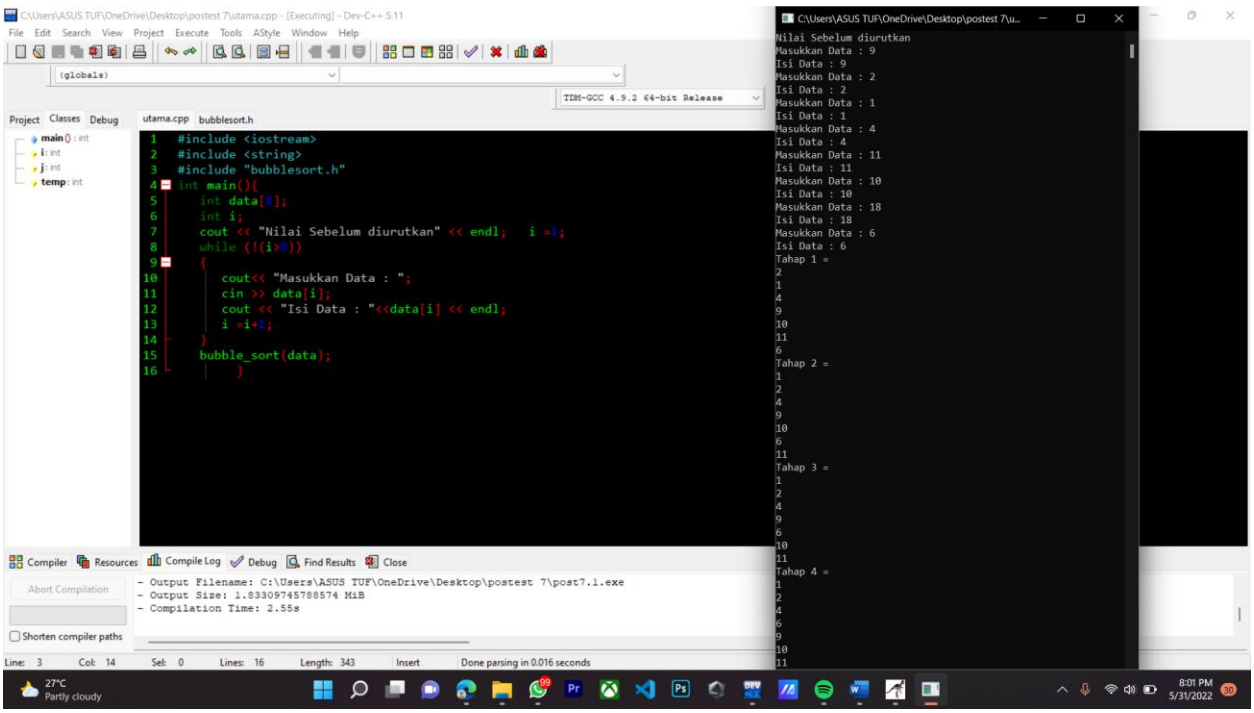
```
#include <iostream>
#include <string>
#include "bubblesort.h"
int main(){
  int data[8];
  int i;
  cout << "Nilai Sebelum diurutkan" << endl;   i =1;
  while (!(i>8))
  {
    cout<< "Masukkan Data : ";
    cin >> data[i];
    cout << "Isi Data : "<<data[i] << endl;
        i =i+1;
  }
  bubble_sort(data);
                }
```

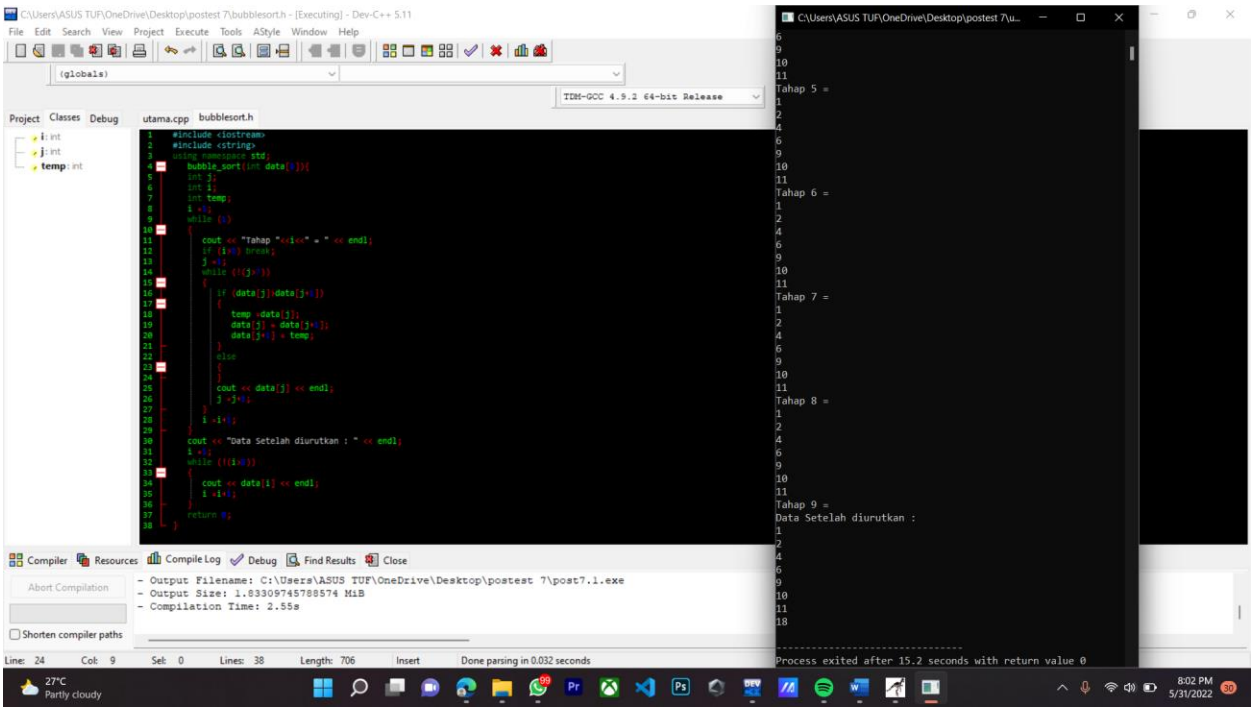
Subprogram **bubblesort.h**

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

  bubble_sort(int data[8]){
  int j;
  int i;
  int temp;
  i =1;
  while (1)
  {
    cout << "Tahap "<<i<<" = " << endl;
        if (i>8) break;
    j =1;
    while (!(j>7))
    {
      if (data[j]>data[j+1])
      {
        temp =data[j];
        data[j] = data[j+1];
        data[j+1] = temp;
      }
```

```
        else
        {
        }
        cout << data[j] << endl;
                    j =j+1;
    }
    i =i+1;
  }
  cout << "Data Setelah diurutkan : " << endl;
  i =1;
  while (!(i>8))
  {
    cout << data[i] << endl;
          i =i+1;
  }

  return 0;
}
```

Setelah di **RUN**




C:\Users\ASUS TUF\OneDrive\Desktop\postest 7\bubblesort.h - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
i: int
j: int
temp: int
utama.cpp bubblesort.h
#include <iostream>
#include <string>
using namespace std;
bubble_sort(int data[]){
int j;
int i;
int temp;
i =1;
while (i)
{
cout << "Tahap "<<i<<" = " << endl;
if (i==9) break;
j =1;
while (!(j>i))
{
if (data[j]>data[j+1])
{
temp =data[j];
data[j] = data[j+1];
data[j+1] = temp;
}
else
{
}
cout << data[j] << endl;
j =j+1;
}
i =i+1;
}
cout << "Data Setelah diurutkan : " << endl;
i =1;
while (!(i>9))
{
cout << data[i] << endl;
i =i+1;
}
return 0;
}
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
- Output Filename: C:\Users\ASUS TUF\OneDrive\Desktop\postest 7\post7.1.exe
- Output Size: 1.83309745788574 MiB
- Compilation Time: 2.55s
Line: 24 Col: 9 Sel: 0 Lines: 38 Length: 706 Insert Done parsing in 0.032 seconds
C:\Users\ASUS TUF\OneDrive\Desktop\postest 7\u...
6
9
10
11
Tahap 5 =
1
2
4
6
9
10
11
Tahap 6 =
1
2
4
6
9
10
11
Tahap 7 =
1
2
4
6
9
10
11
Tahap 8 =
1
2
4
6
9
10
11
Tahap 9 =
Data Setelah diurutkan :
1
2
4
6
9
10
11
18
Process exited after 15.2 seconds with return value 0
27°C
Partly cloudy
8:02 PM
5/31/2022