

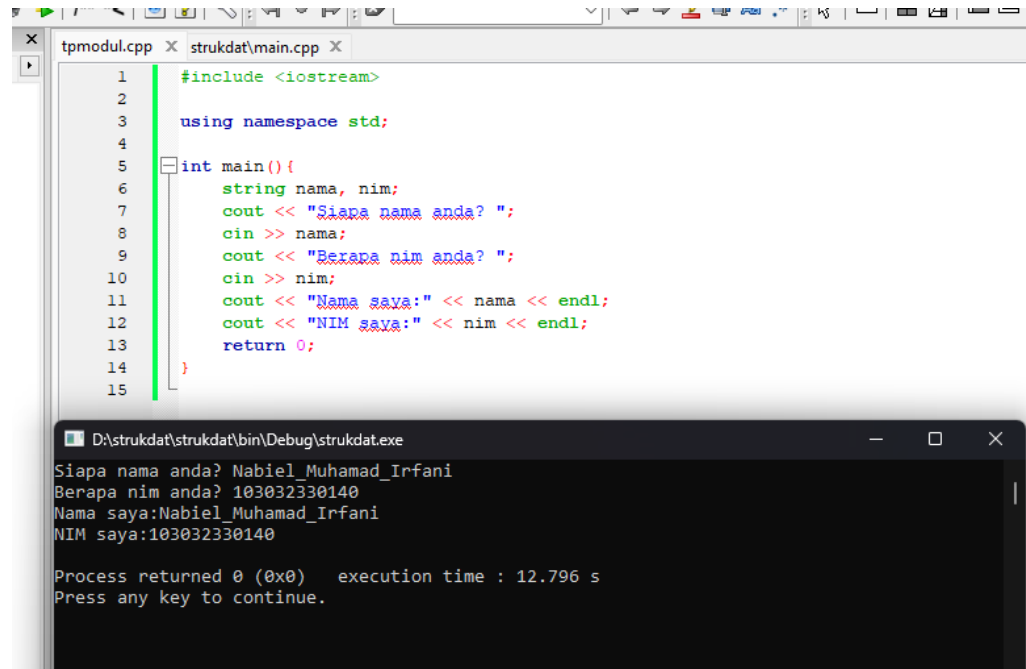
Tugas Pendahuluan Modul 1 – Struktur Data

Nama : Nabel Muhamad Irfani

NIM : 103032330140

Kelas : IT – 47 - 04

1. (Input/Output) A dan B

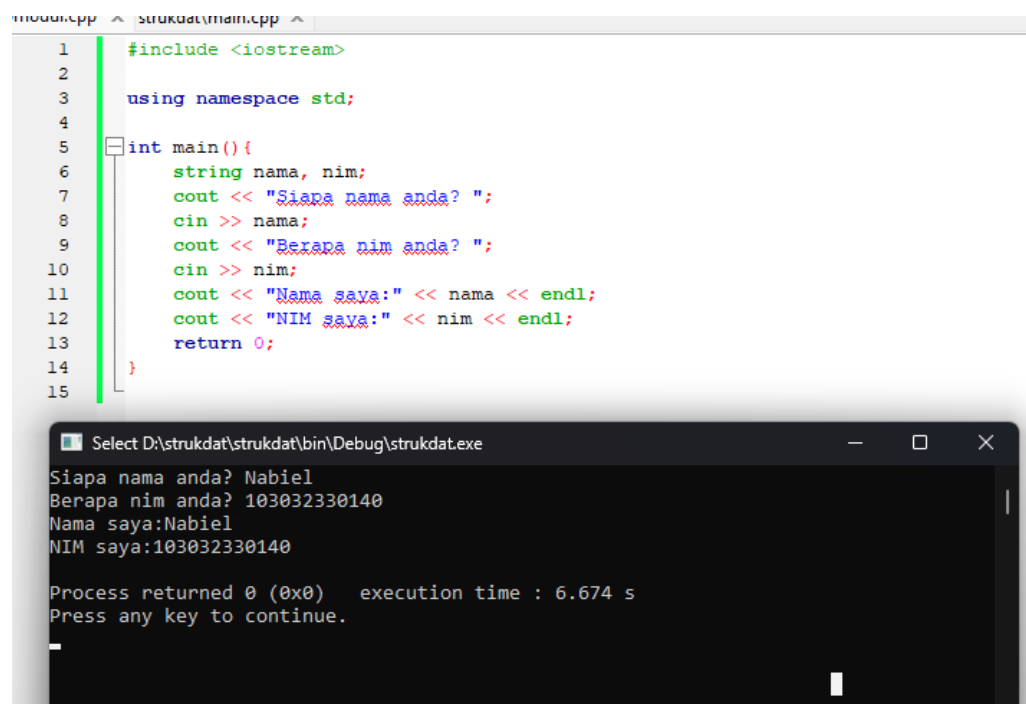


The screenshot shows a C++ program in a text editor and its execution in a command prompt. The program prompts the user for their name and NIM, then displays the input. The execution output shows the user's input and the program's response.

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(){
6     string nama, nim;
7     cout << "Siapa nama anda? ";
8     cin >> nama;
9     cout << "Berapa nim anda? ";
10    cin >> nim;
11    cout << "Nama saya:" << nama << endl;
12    cout << "NIM saya:" << nim << endl;
13    return 0;
14 }
15
```

```
D:\strukdat\strukdat\bin\Debug\strukdat.exe
Siapa nama anda? Nabel Muhamad Irfani
Berapa nim anda? 103032330140
Nama saya:Nabel Muhamad Irfani
NIM saya:103032330140

Process returned 0 (0x0)   execution time : 12.796 s
Press any key to continue.
```



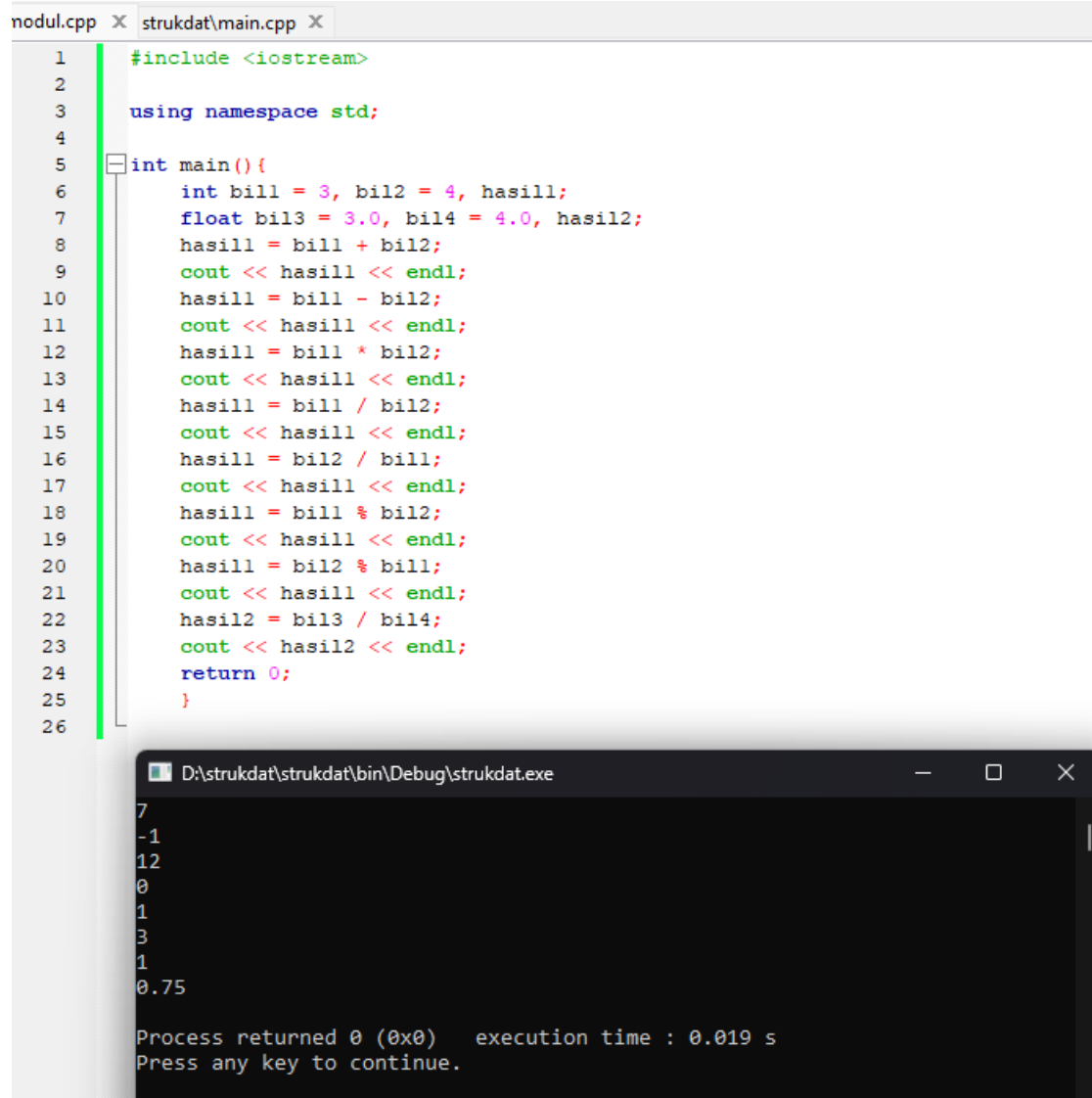
The screenshot shows the same C++ program as above, but with a different execution output. The user's input is "Nabel" instead of "Nabel Muhamad Irfani". The execution output shows the user's input and the program's response.

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(){
6     string nama, nim;
7     cout << "Siapa nama anda? ";
8     cin >> nama;
9     cout << "Berapa nim anda? ";
10    cin >> nim;
11    cout << "Nama saya:" << nama << endl;
12    cout << "NIM saya:" << nim << endl;
13    return 0;
14 }
15
```

```
Select D:\strukdat\strukdat\bin\Debug\strukdat.exe
Siapa nama anda? Nabel
Berapa nim anda? 103032330140
Nama saya:Nabel
NIM saya:103032330140

Process returned 0 (0x0)   execution time : 6.674 s
Press any key to continue.
```

2. (Operasi Aritmatika)



The image shows a C++ IDE with a file named `nodul.cpp` and `strukdat\main.cpp`. The code in `main.cpp` defines a `main` function that performs various arithmetic operations on variables `bill1`, `bil2`, `bil3`, `bil4`, `hasil1`, and `hasil2`. The operations include addition, subtraction, multiplication, division, and modulus. The results are printed using `cout` with `endl` for line breaks. The program returns 0 and ends.

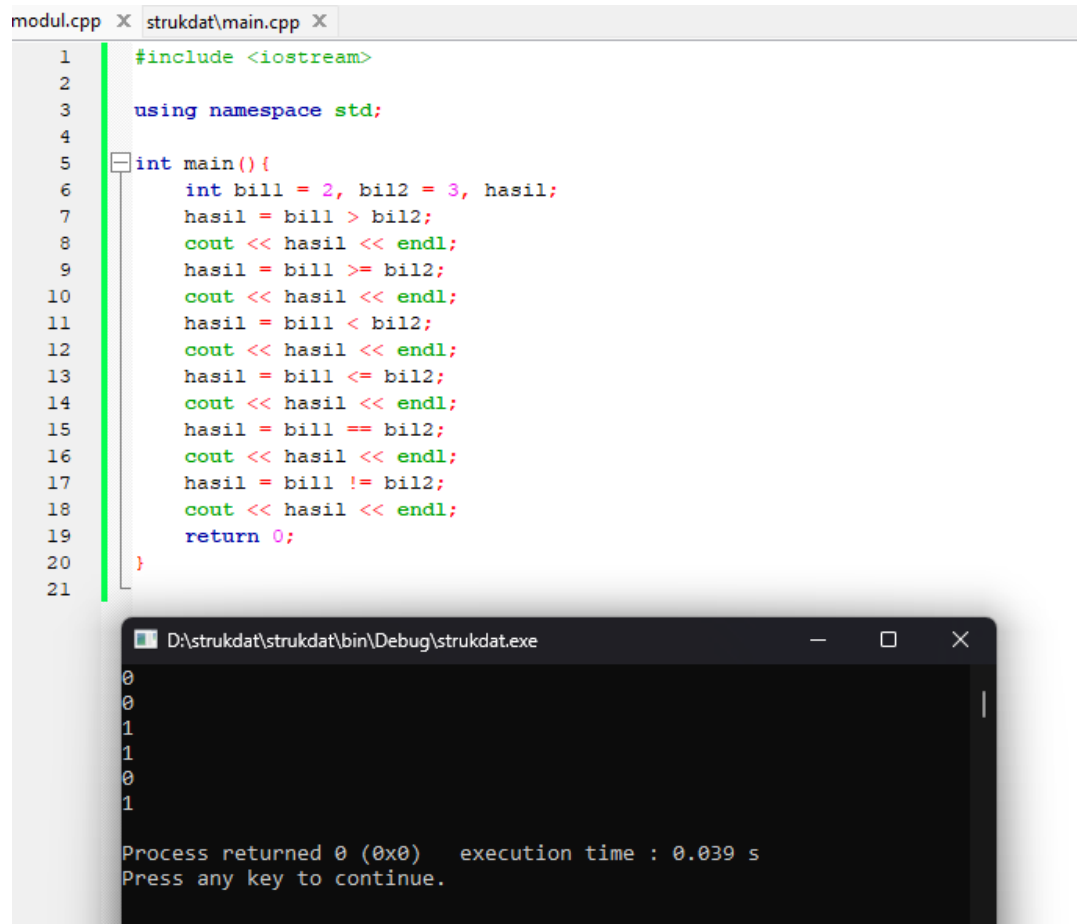
```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int bill1 = 3, bil2 = 4, hasil1;
7      float bil3 = 3.0, bil4 = 4.0, hasil2;
8      hasil1 = bill1 + bil2;
9      cout << hasil1 << endl;
10     hasil1 = bill1 - bil2;
11     cout << hasil1 << endl;
12     hasil1 = bill1 * bil2;
13     cout << hasil1 << endl;
14     hasil1 = bill1 / bil2;
15     cout << hasil1 << endl;
16     hasil1 = bil2 / bill1;
17     cout << hasil1 << endl;
18     hasil1 = bill1 % bil2;
19     cout << hasil1 << endl;
20     hasil1 = bil2 % bill1;
21     cout << hasil1 << endl;
22     hasil2 = bil3 / bil4;
23     cout << hasil2 << endl;
24     return 0;
25 }
26
```

The execution output window shows the results of the operations:

```
7
-1
12
0
1
3
1
0.75

Process returned 0 (0x0)   execution time : 0.019 s
Press any key to continue.
```

3. (Operasi Perbandingan)



The screenshot shows a C++ IDE with two tabs: 'modul.cpp' and 'strukdat/main.cpp'. The 'strukdat/main.cpp' tab is active, displaying a C++ program that tests various comparison operators between the integers 2 and 3. The code includes `<iostream>` and uses the `std` namespace. The `main` function initializes `bill = 2`, `bil2 = 3`, and `hasil`. It then performs a series of comparisons: `>`, `>=`, `<`, `<=`, and `==`, each followed by a `cout` statement to print the result (0 for false, 1 for true). The final comparison is `!=`. The program returns 0. Below the code editor, a terminal window titled 'D:\strukdat\strukdat\bin\Debug\strukdat.exe' shows the output: 0, 0, 1, 1, 0, 1. At the bottom, it states 'Process returned 0 (0x0) execution time : 0.039 s' and 'Press any key to continue.'

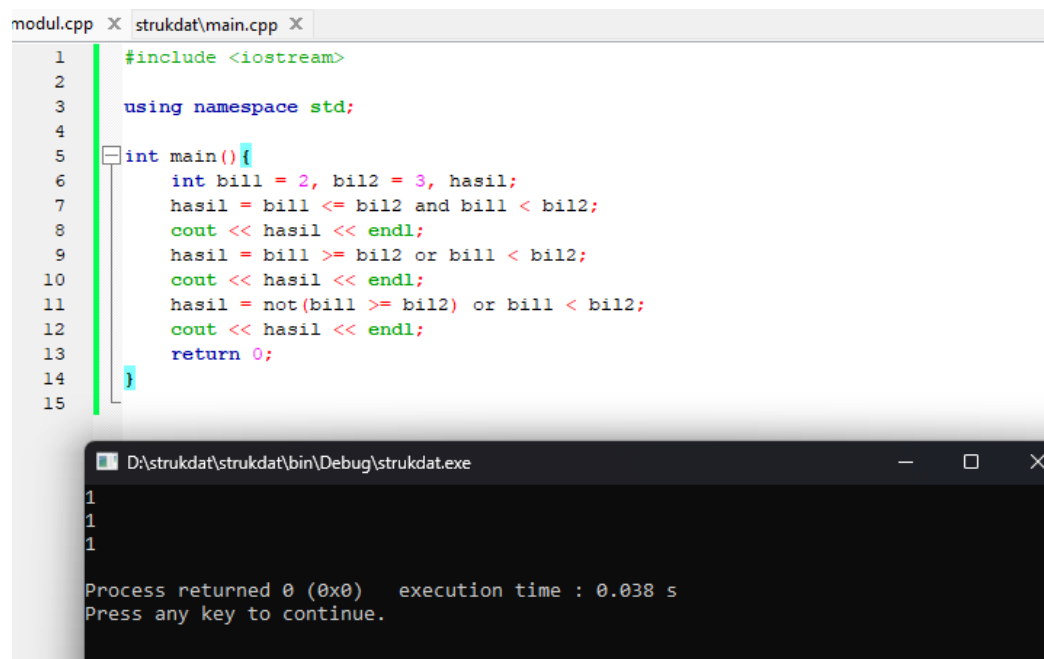
```
1 #include <iostream>
2
3 using namespace std;
4
5 int main() {
6     int bill = 2, bil2 = 3, hasil;
7     hasil = bill > bil2;
8     cout << hasil << endl;
9     hasil = bill >= bil2;
10    cout << hasil << endl;
11    hasil = bill < bil2;
12    cout << hasil << endl;
13    hasil = bill <= bil2;
14    cout << hasil << endl;
15    hasil = bill == bil2;
16    cout << hasil << endl;
17    hasil = bill != bil2;
18    cout << hasil << endl;
19    return 0;
20 }
21
```

D:\strukdat\strukdat\bin\Debug\strukdat.exe

0
0
1
1
0
1

Process returned 0 (0x0) execution time : 0.039 s
Press any key to continue.

4. (Operasi Logika)



The screenshot shows a C++ IDE with two tabs: 'modul.cpp' and 'strukdat/main.cpp'. The 'strukdat/main.cpp' tab is active, displaying a C++ program that tests logical operators. The code includes `<iostream>` and uses the `std` namespace. The `main` function initializes `bill = 2`, `bil2 = 3`, and `hasil`. It then performs logical operations: `bill <= bil2 and bill < bil2`, `bill >= bil2 or bill < bil2`, and `not(bill >= bil2) or bill < bil2`, each followed by a `cout` statement to print the result (0 for false, 1 for true). The program returns 0. Below the code editor, a terminal window titled 'D:\strukdat\strukdat\bin\Debug\strukdat.exe' shows the output: 1, 1, 1. At the bottom, it states 'Process returned 0 (0x0) execution time : 0.038 s' and 'Press any key to continue.'

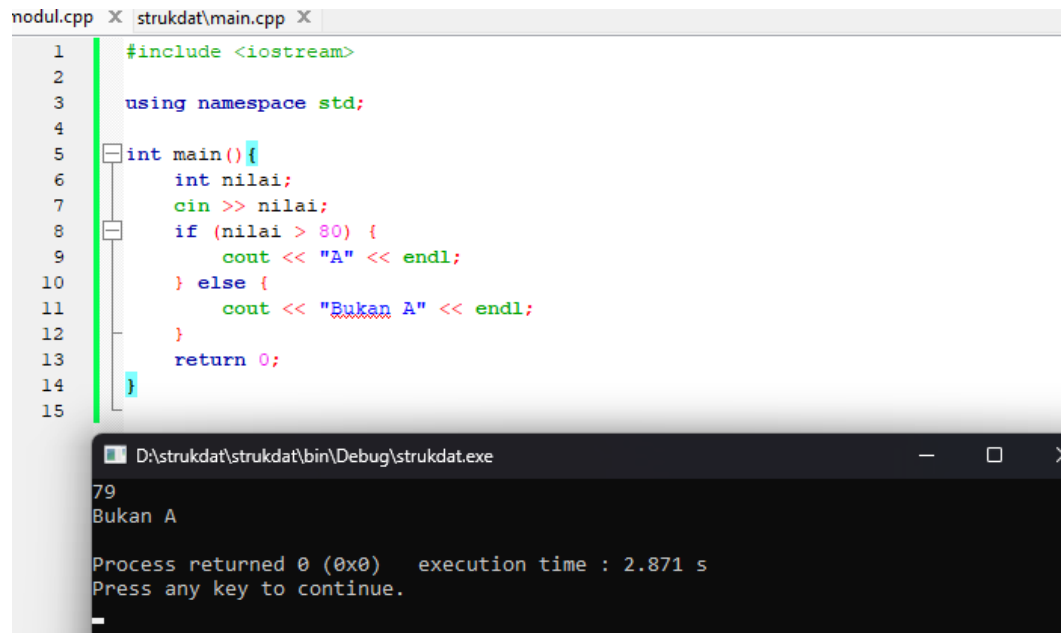
```
1 #include <iostream>
2
3 using namespace std;
4
5 int main() {
6     int bill = 2, bil2 = 3, hasil;
7     hasil = bill <= bil2 and bill < bil2;
8     cout << hasil << endl;
9     hasil = bill >= bil2 or bill < bil2;
10    cout << hasil << endl;
11    hasil = not(bill >= bil2) or bill < bil2;
12    cout << hasil << endl;
13    return 0;
14 }
15
```

D:\strukdat\strukdat\bin\Debug\strukdat.exe

1
1
1

Process returned 0 (0x0) execution time : 0.038 s
Press any key to continue.

5. (Percabangan If – Else)

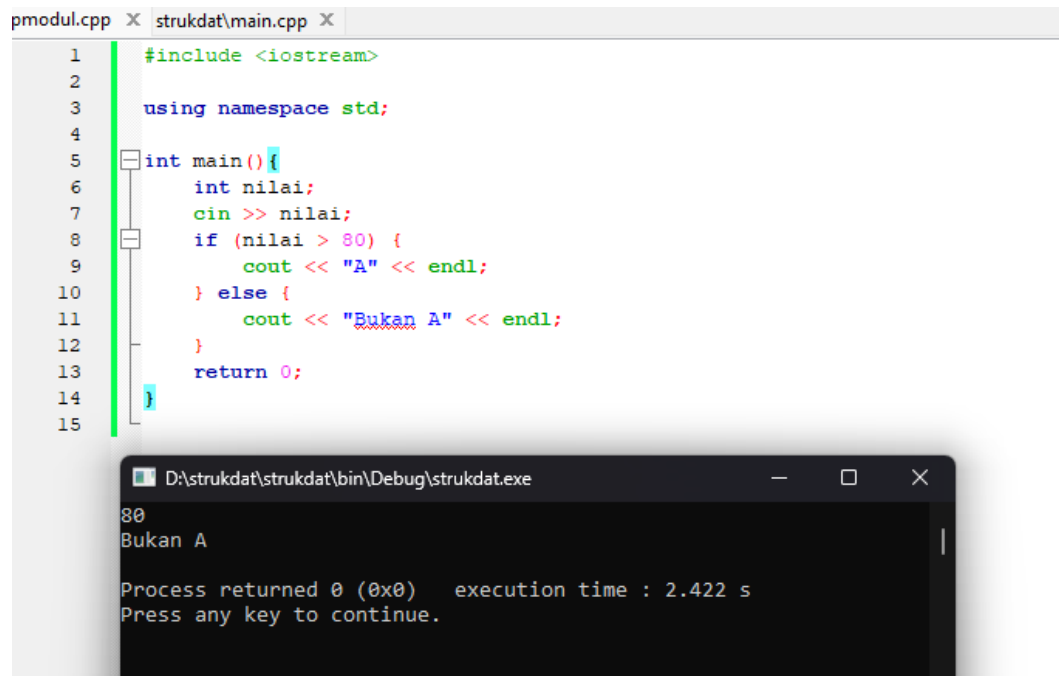


```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(){
6     int nilai;
7     cin >> nilai;
8     if (nilai > 80) {
9         cout << "A" << endl;
10    } else {
11        cout << "Bukan A" << endl;
12    }
13    return 0;
14 }
15
```

D:\strukdat\strukdat\bin\Debug\strukdat.exe

79
Bukan A

Process returned 0 (0x0) execution time : 2.871 s
Press any key to continue.



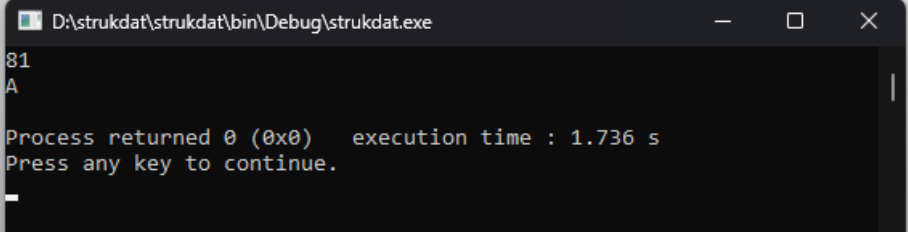
```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(){
6     int nilai;
7     cin >> nilai;
8     if (nilai > 80) {
9         cout << "A" << endl;
10    } else {
11        cout << "Bukan A" << endl;
12    }
13    return 0;
14 }
15
```

D:\strukdat\strukdat\bin\Debug\strukdat.exe

80
Bukan A

Process returned 0 (0x0) execution time : 2.422 s
Press any key to continue.

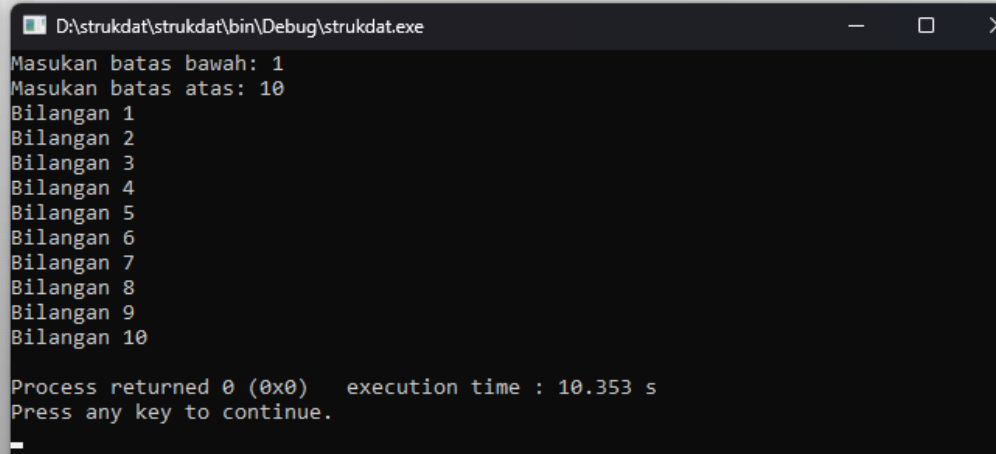
```
modul.cpp X strukdat\main.cpp X
1  #include <iostream>
2
3  using namespace std;
4
5  int main(){
6      int nilai;
7      cin >> nilai;
8      if (nilai > 80) {
9          cout << "A" << endl;
10     } else {
11         cout << "Bukan A" << endl;
12     }
13     return 0;
14 }
15
```



```
D:\strukdat\strukdat\bin\Debug\strukdat.exe
81
A
Process returned 0 (0x0)   execution time : 1.736 s
Press any key to continue.
```

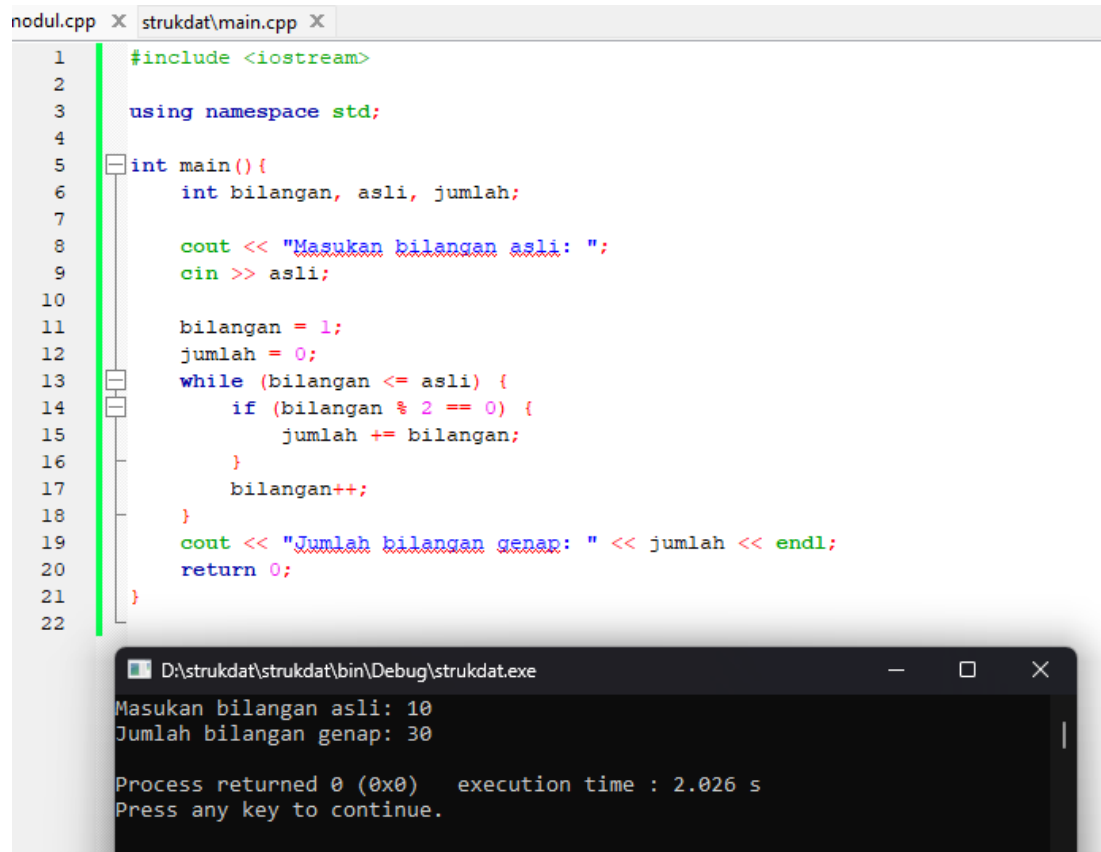
6. (Perulangan For-To-Do)

```
modul.cpp X strukdat\main.cpp X
1  #include <iostream>
2
3  using namespace std;
4
5  int main(){
6      int a, b, bilangan;
7      cout << "Masukan batas bawah: ";
8      cin >> a;
9      cout << "Masukan batas atas: ";
10     cin >> b;
11     for (bilangan = a; bilangan <= b; bilangan++) {
12         cout << "Bilangan " << bilangan << endl;
13     }
14     return 0;
15 }
16
```



```
D:\strukdat\strukdat\bin\Debug\strukdat.exe
Masukan batas bawah: 1
Masukan batas atas: 10
Bilangan 1
Bilangan 2
Bilangan 3
Bilangan 4
Bilangan 5
Bilangan 6
Bilangan 7
Bilangan 8
Bilangan 9
Bilangan 10
Process returned 0 (0x0)   execution time : 10.353 s
Press any key to continue.
```

7. (Perulangan while – do)



```
1  #include <iostream>
2
3  using namespace std;
4
5  int main(){
6      int bilangan, asli, jumlah;
7
8      cout << "Masukan bilangan asli: ";
9      cin >> asli;
10
11     bilangan = 1;
12     jumlah = 0;
13     while (bilangan <= asli) {
14         if (bilangan % 2 == 0) {
15             jumlah += bilangan;
16         }
17         bilangan++;
18     }
19     cout << "Jumlah bilangan genap: " << jumlah << endl;
20     return 0;
21 }
22
```

D:\strukdat\strukdat\bin\Debug\strukdat.exe

Masukan bilangan asli: 10
Jumlah bilangan genap: 30

Process returned 0 (0x0) execution time : 2.026 s
Press any key to continue.