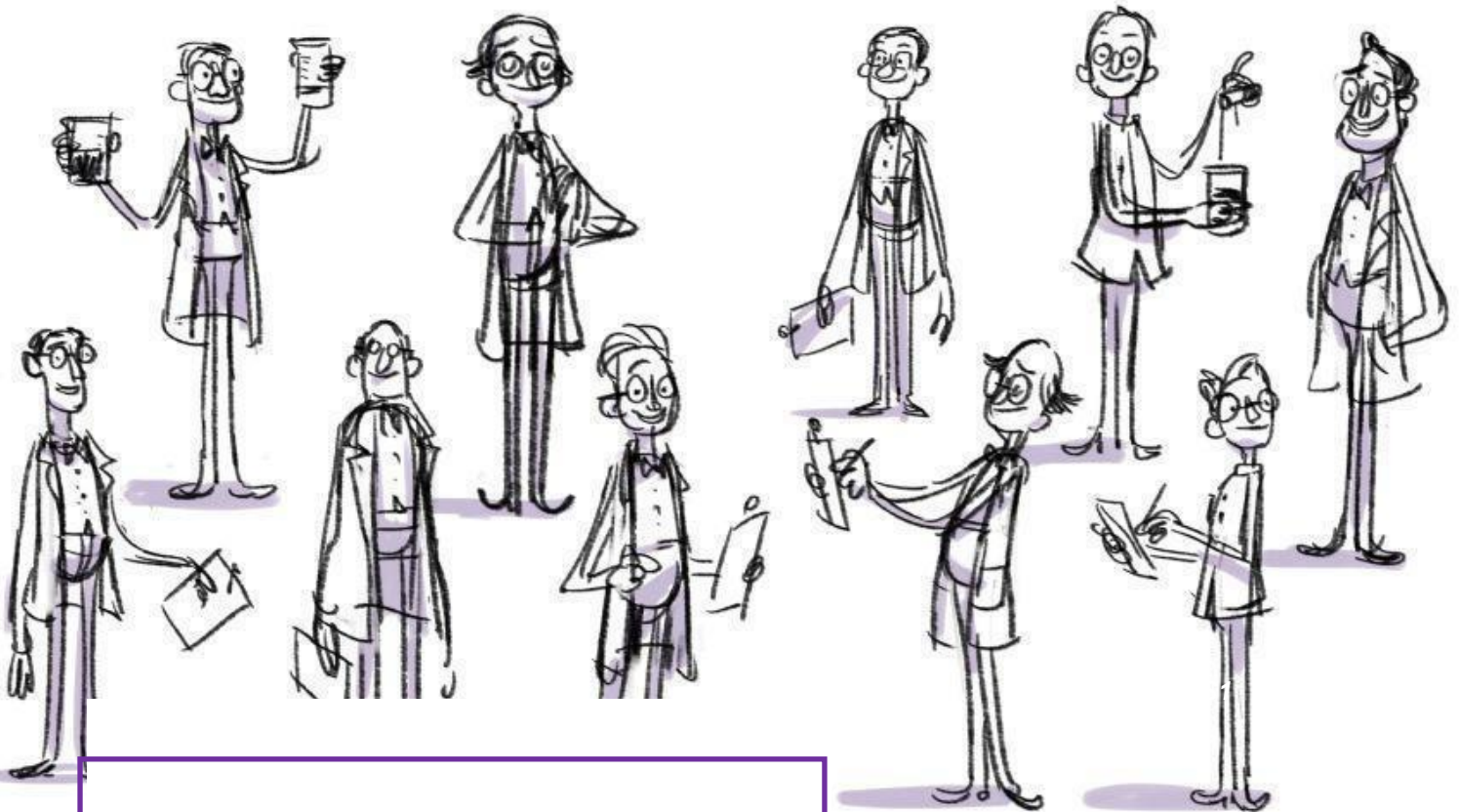


Handout Pemrograman Terstruktur



Nama : Muchamad Sanaya Almatin
Nim : 22.12.2604
Kelas : SI05

Program Studi S1-Sistem
Informasi, Fakultas Ilmu
Komputer, Universitas Amikom
Yogyakarta

Disclaimer

Hanya dipergunakan di Lingkungan Internal

TASK:

1. An organization is hiring new employees. There were ten candidates. Criteria for passing applicants:

For Women : Minimum height is 160 cm and maximum weight is 65 kg

For Men : Minimum height is 165 cm and maximum weight is 80 kg

Create an algorithm to count how many applicants passed.

2. Create an algorithm to determine the buyer's total cost, the amount paid, and the change.

The seller enters the product's name, the quantity of units purchased, and the product's unit price.

3. Create an algorithm to print this pattern:

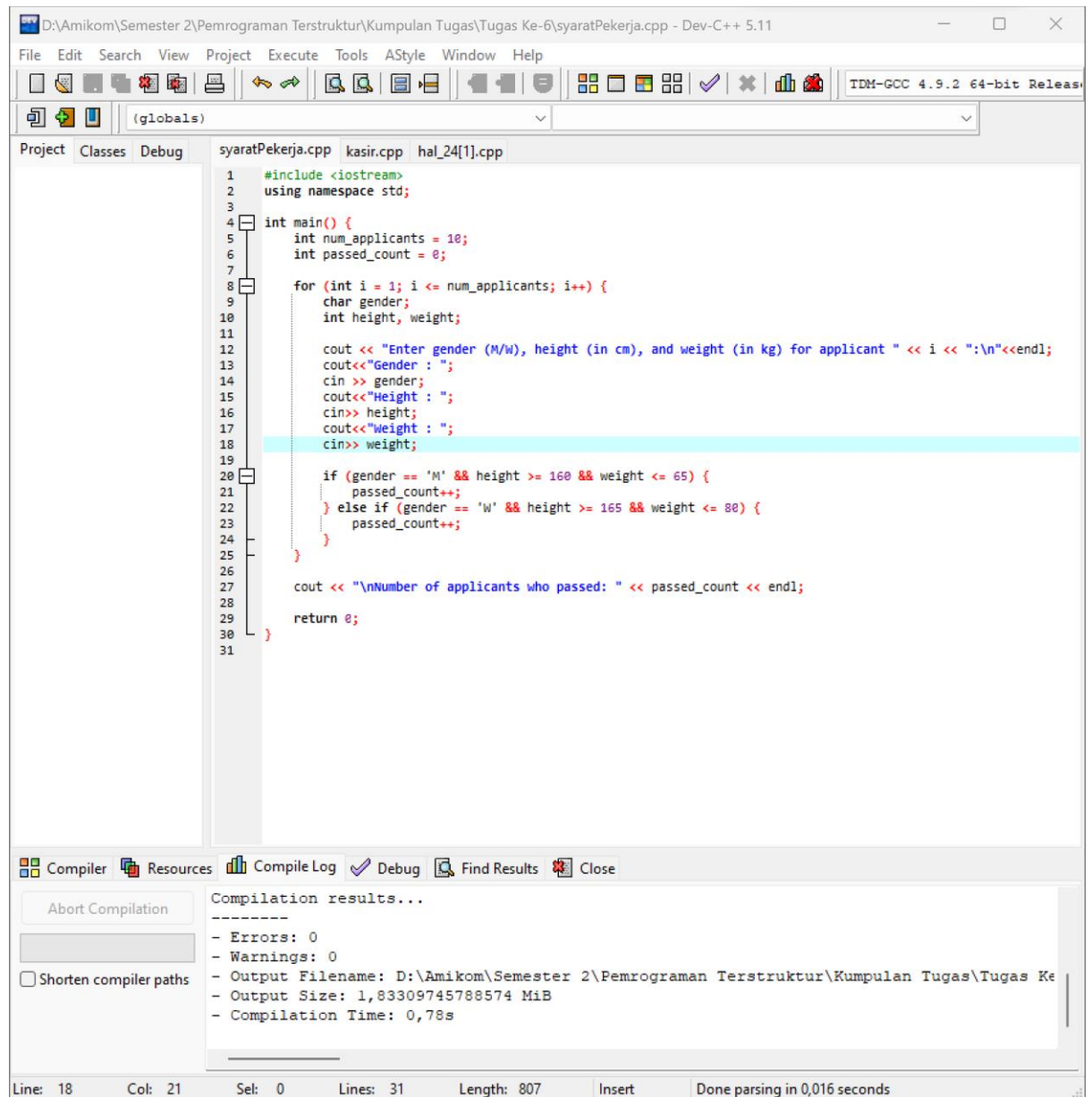
Height: 5

```
  *
 **
***
****
*****
```

ANSWER:

1. Algorithm to count how many applicants passed.

Code:



```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int num_applicants = 10;
6     int passed_count = 0;
7
8     for (int i = 1; i <= num_applicants; i++) {
9         char gender;
10        int height, weight;
11
12        cout << "Enter gender (M/W), height (in cm), and weight (in kg) for applicant " << i << ":\n" << endl;
13        cout << "Gender : ";
14        cin >> gender;
15        cout << "Height : ";
16        cin >> height;
17        cout << "Weight : ";
18        cin >> weight;
19
20        if (gender == 'M' && height >= 160 && weight <= 65) {
21            passed_count++;
22        } else if (gender == 'W' && height >= 165 && weight <= 80) {
23            passed_count++;
24        }
25    }
26
27    cout << "\nNumber of applicants who passed: " << passed_count << endl;
28
29    return 0;
30 }
31
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: D:\Amikom\Semester 2\Pemrograman Terstruktur\Kumpulan Tugas\Tugas Ke
- Output Size: 1,833,097,457,885,74 MiB
- Compilation Time: 0,78s

Line: 18 Col: 21 Sel: 0 Lines: 31 Length: 807 Insert Done parsing in 0,016 seconds

Result:

```
D:\Amikom\Semester 2\Pemr  ×  +  v  -  □  ×

Enter gender (M/W), height (in cm), and weight (in kg) for applicant 1:

Gender : M
Height : 173
Weight : 60
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 2:

Gender : W
Height : 154
Weight : 45
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 3:

Gender : M
Height : 163
Weight : 63
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 4:

Gender : W
Height : 170
Weight : 64
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 5:

Gender : M
Height : 175
Weight : 75
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 6:

Gender : W
Height : 162
Weight : 55
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 7:

Gender : M
Height : 178
Weight : 76
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 8:

Gender : W
Height : 180
Weight : 80
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 9:

Gender : M
Height : 185
Weight : 85
Enter gender (M/W), height (in cm), and weight (in kg) for applicant 10:

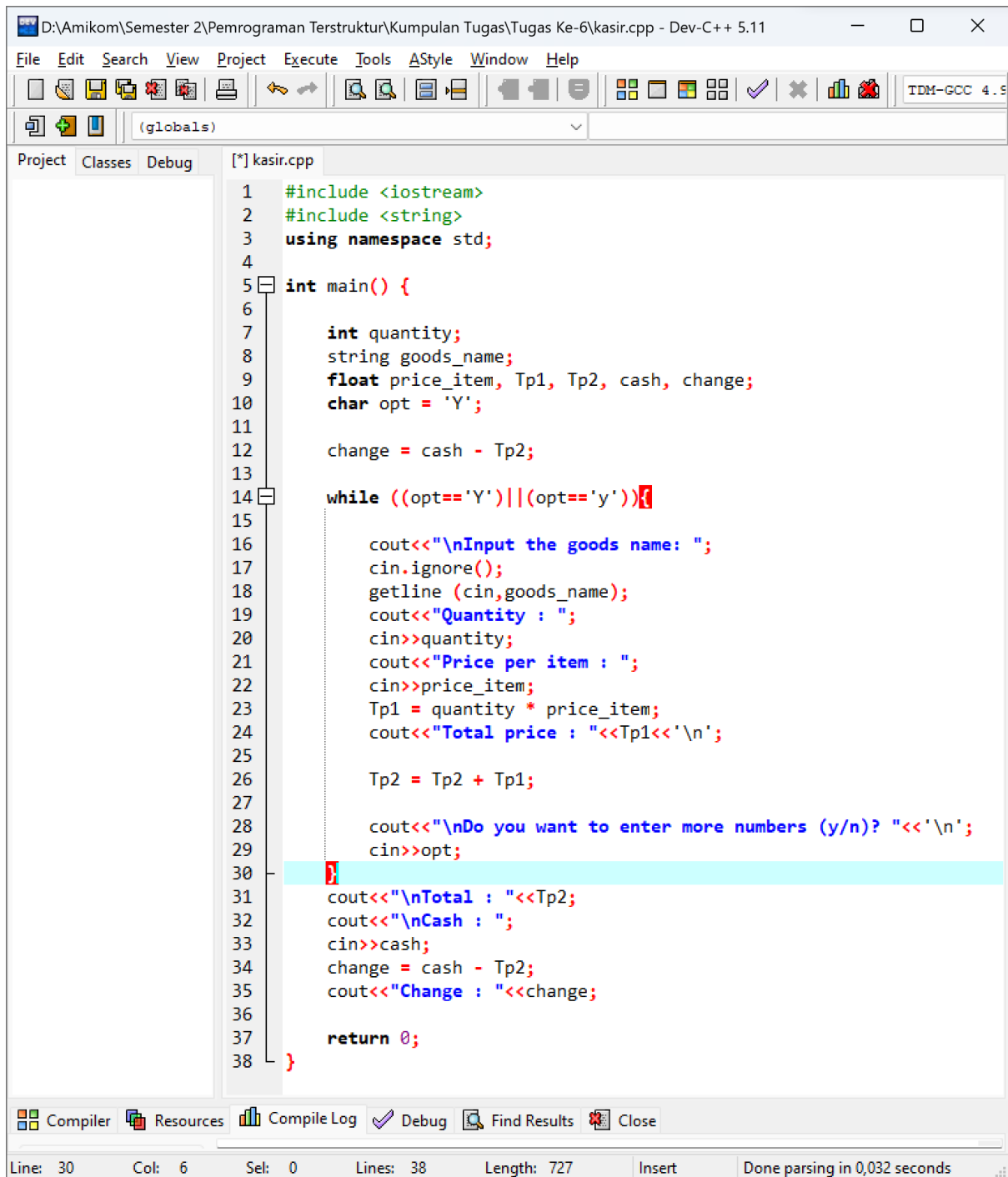
Gender : W
Height : 156
Weight : 56

Number of applicants who passed: 4

-----
Process exited after 261.4 seconds with return value 0
Press any key to continue . . .
```

2. Algorithmn to determine buyer's total cost, the amount paid, and the change.

Code:



```
1  #include <iostream>
2  #include <string>
3  using namespace std;
4
5  int main() {
6
7      int quantity;
8      string goods_name;
9      float price_item, Tp1, Tp2, cash, change;
10     char opt = 'Y';
11
12     change = cash - Tp2;
13
14     while ((opt=='Y')||(opt=='y')){
15
16         cout<<"\nInput the goods name: ";
17         cin.ignore();
18         getline (cin,goods_name);
19         cout<<"Quantity : ";
20         cin>>quantity;
21         cout<<"Price per item : ";
22         cin>>price_item;
23         Tp1 = quantity * price_item;
24         cout<<"Total price : "<<Tp1<<'\n';
25
26         Tp2 = Tp2 + Tp1;
27
28         cout<<"\nDo you want to enter more numbers (y/n)? "<<'\n';
29         cin>>opt;
30     }
31     cout<<"\nTotal : "<<Tp2;
32     cout<<"\nCash : ";
33     cin>>cash;
34     change = cash - Tp2;
35     cout<<"Change : "<<change;
36
37     return 0;
38 }
```

The screenshot shows the Dev-C++ IDE with the file 'kasir.cpp' open. The code is a C++ program that calculates the total cost of goods, the amount of cash paid, and the change. It uses a loop to allow the user to enter multiple items. The status bar at the bottom indicates the current line is 30, column is 6, and the total length of the file is 727 characters.

Result:



D:\Amikom\Semester 2\Pemr



Input the goods name: Biore Body Wash

Quantity : 2

Price per item : 20000

Total price : 40000

Do you want to enter more numbers (y/n)? y

Input the goods name: Rinso

Quantity : 3

Price per item : 11000

Total price : 33000

Do you want to enter more numbers (y/n)? y

Input the goods name: Indomie Goreng

Quantity : 10

Price per item : 3000

Total price : 30000

Do you want to enter more numbers (y/n)? n

Total : 103000

Cash : 110000

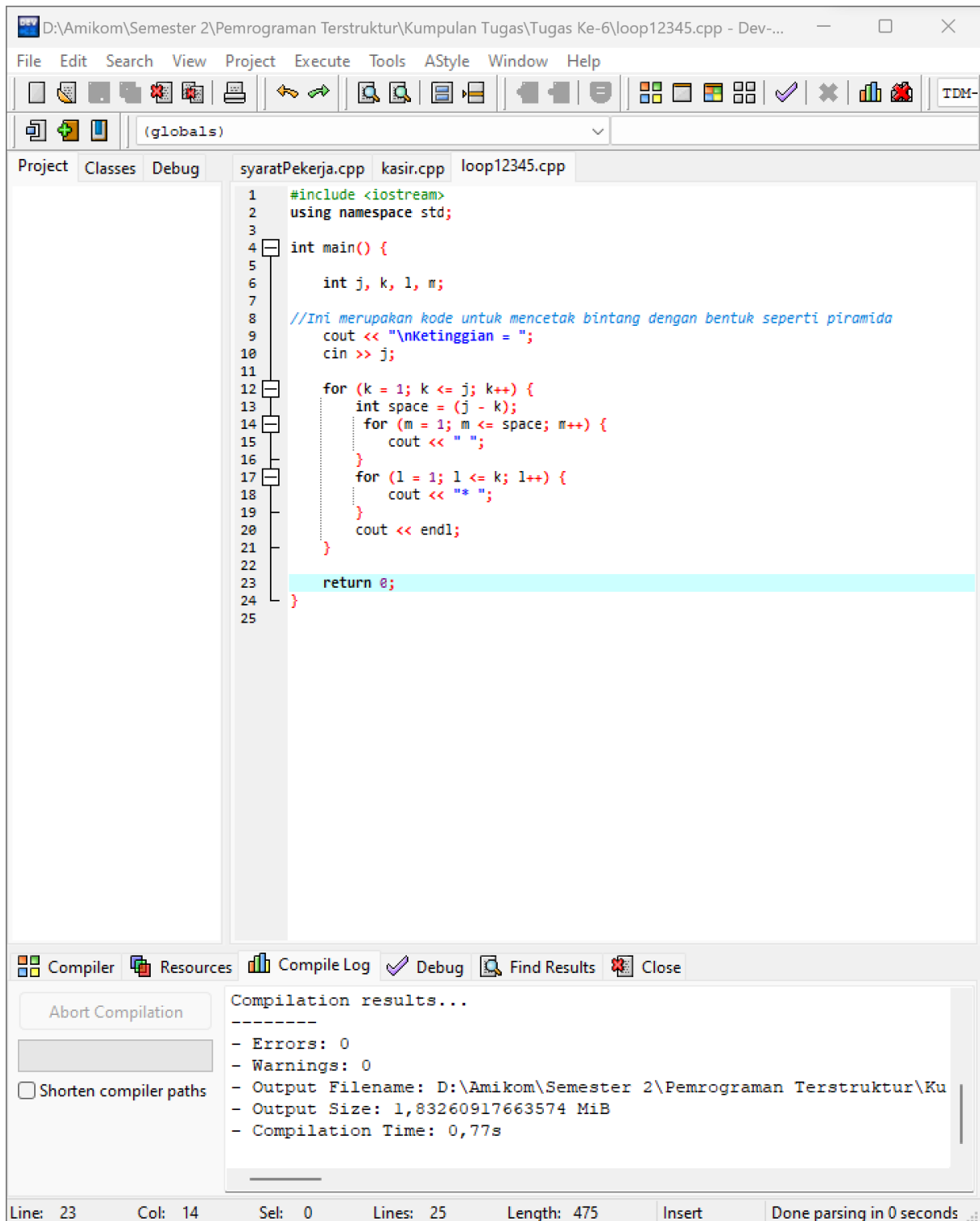
Change : 7000

Process exited after 67.69 seconds with return value 0

Press any key to continue . . .

3. Algorithm to print pattern

Code:



The screenshot shows a C++ IDE with the following components:

- File Explorer:** Displays the project structure with files `syaratPekerja.cpp`, `kasir.cpp`, and `loop12345.cpp`.
- Code Editor:** Contains the source code for `loop12345.cpp`. The code includes headers, a `main` function, and nested loops to print a pyramid of stars. The line `return 0;` is highlighted in cyan.
- Compiler Output:** Shows the compilation results, indicating 0 errors and 0 warnings. The output filename is `D:\Amikom\Semester 2\Pemrograman Terstruktur\Ku`, the output size is `1,83260917663574 MiB`, and the compilation time is `0,77s`.
- Status Bar:** Displays the current line (23), column (14), selection (0), total lines (25), length (475), and parsing time (0 seconds).

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5
6      int j, k, l, n;
7
8      //Ini merupakan kode untuk mencetak bintang dengan bentuk seperti piramida
9      cout << "\nKetinggian = ";
10     cin >> j;
11
12     for (k = 1; k <= j; k++) {
13         int space = (j - k);
14         for (m = 1; m <= space; m++) {
15             cout << " ";
16         }
17         for (l = 1; l <= k; l++) {
18             cout << "* ";
19         }
20         cout << endl;
21     }
22
23     return 0;
24 }
25
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: D:\Amikom\Semester 2\Pemrograman Terstruktur\Ku
- Output Size: 1,83260917663574 MiB
- Compilation Time: 0,77s

Line: 23 Col: 14 Sel: 0 Lines: 25 Length: 475 Insert Done parsing in 0 seconds

Result:



```
D:\Amikom\Semester 2\Pemr > Ketinggian = 5
      *
     * *
    * * *
   * * * *
  * * * * *

-----
Process exited after 2.335 seconds with return value 0
Press any key to continue . . .
```