

LAPORAN UAS STRUKTUR DATA
ADJACENCY LIST UNDIRECTED GRAPH



Disusun oleh :

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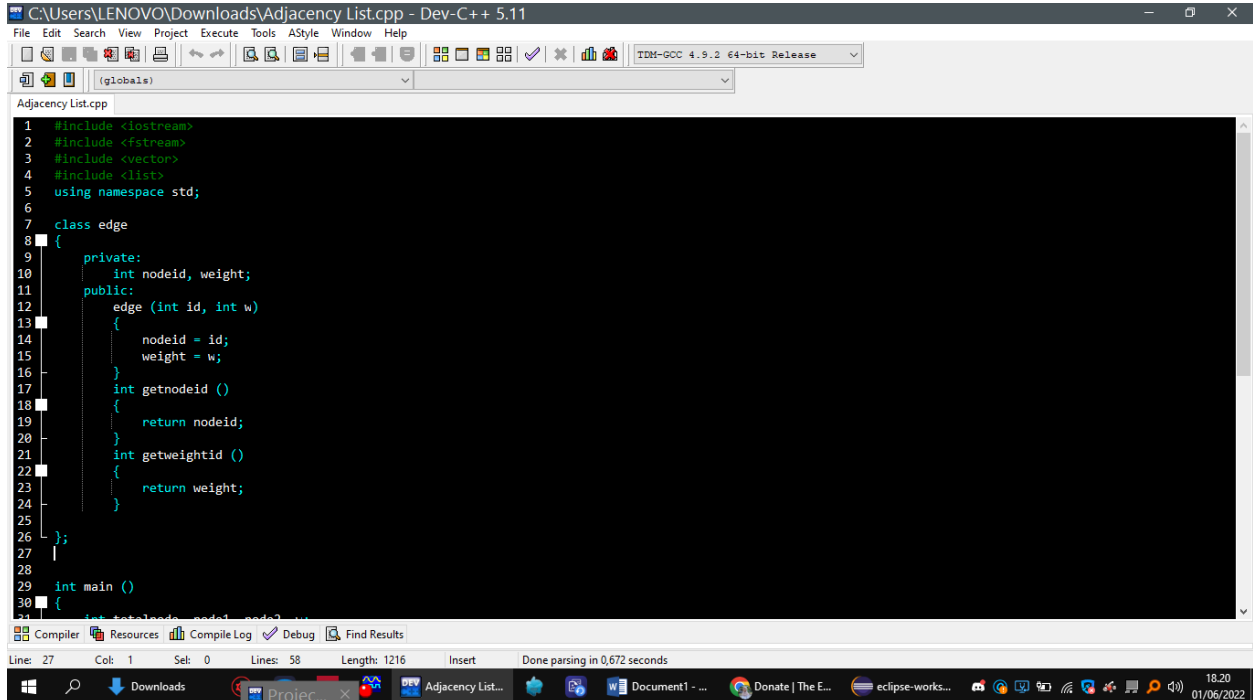
Kelas : 2021B

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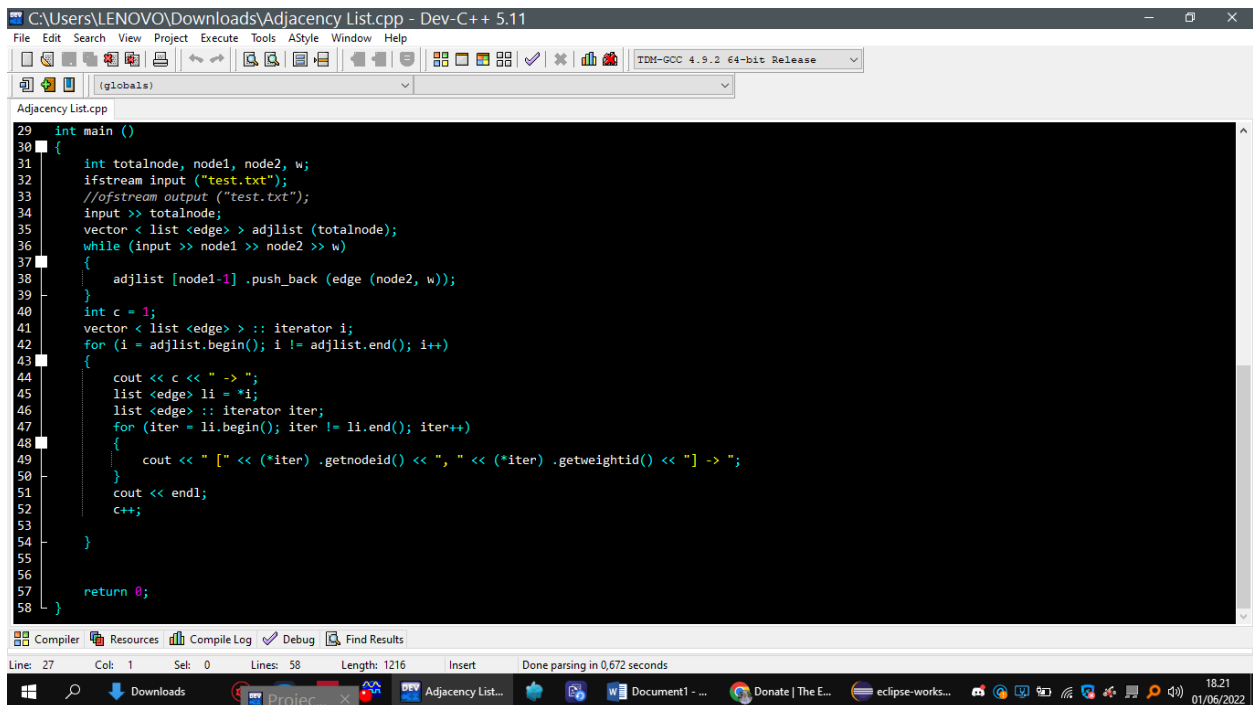
2022

A. Source Code



The screenshot shows the Dev-C++ 5.11 IDE with the file 'Adjacency List.cpp' open. The code defines a class 'edge' with private attributes 'nodeid' and 'weight', and public methods for initialization and retrieval. The 'main' function is partially visible at the bottom.

```
1 #include <iostream>
2 #include <fstream>
3 #include <vector>
4 #include <list>
5 using namespace std;
6
7 class edge
8 {
9 private:
10     int nodeid, weight;
11 public:
12     edge (int id, int w)
13     {
14         nodeid = id;
15         weight = w;
16     }
17     int getnodeid ()
18     {
19         return nodeid;
20     }
21     int getweightid ()
22     {
23         return weight;
24     }
25 };
26
27
28
29 int main ()
30 {
31     int totalnode, node1, node2, w;
```



The screenshot shows the continuation of the 'main' function in 'Adjacency List.cpp'. It reads data from 'test.txt', builds an adjacency list, and prints the graph structure.

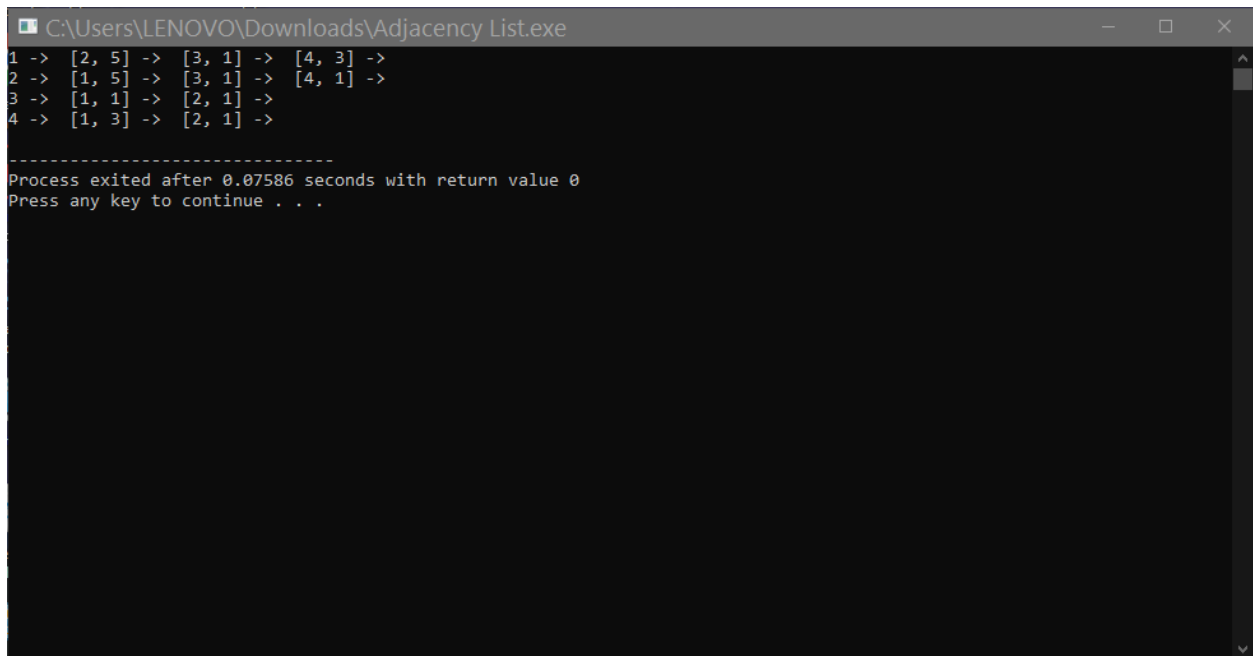
```
31     int totalnode, node1, node2, w;
32     ifstream input ("test.txt");
33     //ofstream output ("test.txt");
34     input >> totalnode;
35     vector < list <edge> > adjlist (totalnode);
36     while (input >> node1 >> node2 >> w)
37     {
38         adjlist [node1-1] .push_back (edge (node2, w));
39     }
40     int c = 1;
41     vector < list <edge> > :: iterator i;
42     for (i = adjlist.begin(); i != adjlist.end(); i++)
43     {
44         cout << c << " -> ";
45         list <edge> li = *i;
46         list <edge> :: iterator iter;
47         for (iter = li.begin(); iter != li.end(); iter++)
48         {
49             cout << " [" << (*iter) .getnodeid() << ", " << (*iter) .getweightid() << "]" -> ";
50         }
51         cout << endl;
52         c++;
53     }
54
55
56
57     return 0;
58 }
```

B. Input



```
test - Notepad
File Edit Format View Help
4
1 2 5
1 3 1
1 4 3
2 1 5
2 3 1
2 4 1
3 1 1
3 2 1
4 1 3
4 2 1
Ln 1, Col 1 100% Windows (CRLF) UTF-8
```

C. Output



```
C:\Users\LENOVO\Downloads\Adjacency List.exe
1 -> [2, 5] -> [3, 1] -> [4, 3] ->
2 -> [1, 5] -> [3, 1] -> [4, 1] ->
3 -> [1, 1] -> [2, 1] ->
4 -> [1, 3] -> [2, 1] ->

-----
Process exited after 0.07586 seconds with return value 0
Press any key to continue . . .
```