

**LAPORAN UAS STRUKTUR DATA**



**ALVIN NOOR HIDAYAH**  
**(21091397016)**

**D4 MANEJEMAN INFORMATIKA**  
**TAHUN PELAJARAN 2021/2022**

### CONTOH KODINGAN NO.1

```
#include<iostream>
```

```
#define Max 100
```

```
using namespace std;
```

```
int adjMat[Max][Max];
```

```
// Jadikan matriks nol//
```

```
void initializeMat(int v)
```

```
{
    for(int i = 0; i < v; i++)
    {
        for(int x = 0; x < v; x++ )
        {
            adjMat[i][x] =0;
        }
    }
}
```

```
// Tambahkan tepi ke grafik untuk membuatnya lebih terhubung//
```

```
void addEdge(int u, int v, int w)
```

```
{
    adjMat[u][v] = w;
    adjMat[v][u] = w;
}
```

```
// Cetak martix yang sudah di input//
```

```
void displayMat(int v)
```

```
{
    for (int i = 1; i <= v; i++)
    {
        cout << "\t";

        for (int x = 1; x <= v; x++)
        {
            cout << adjMat[i][x] << "\t";
        }

        cout << endl;
    }
}
```

```
int main()
{
    int vertice = 4;

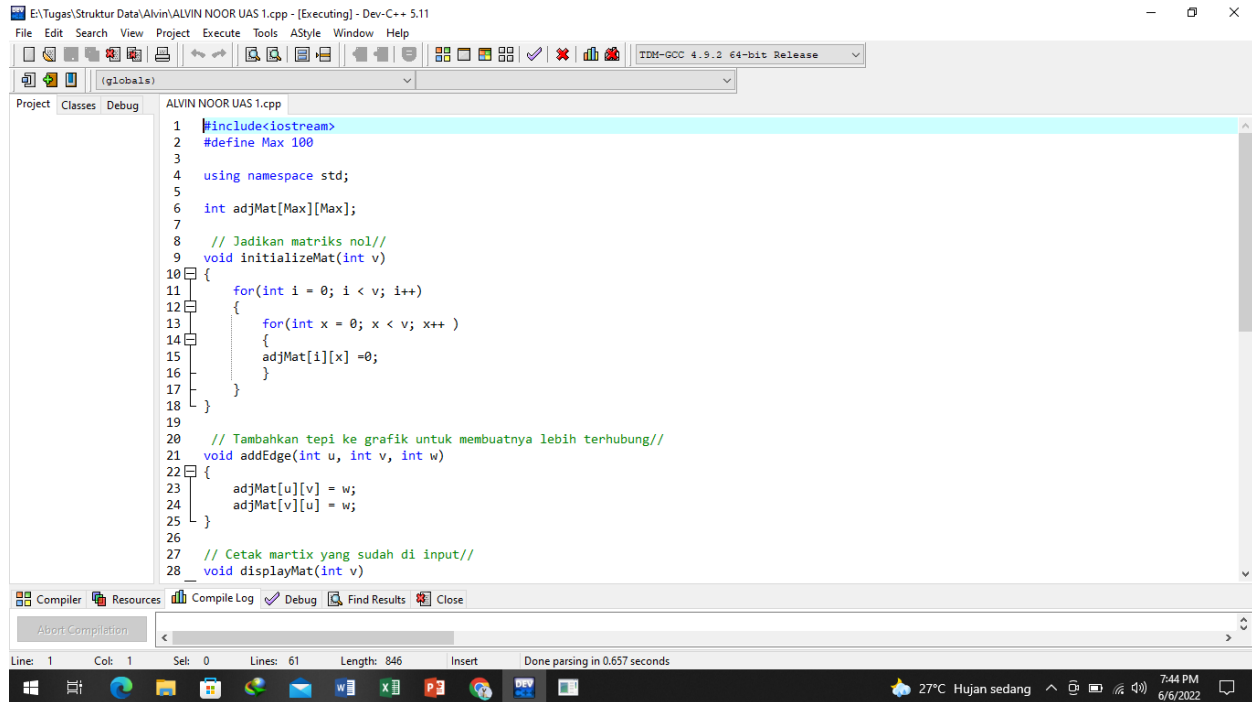
    initializeMat(vertice);

    addEdge(1,2,5);
    addEdge(2,3,1);
    addEdge(4,1,3);
    addEdge(2,4,1);
    addEdge(3,1,1);

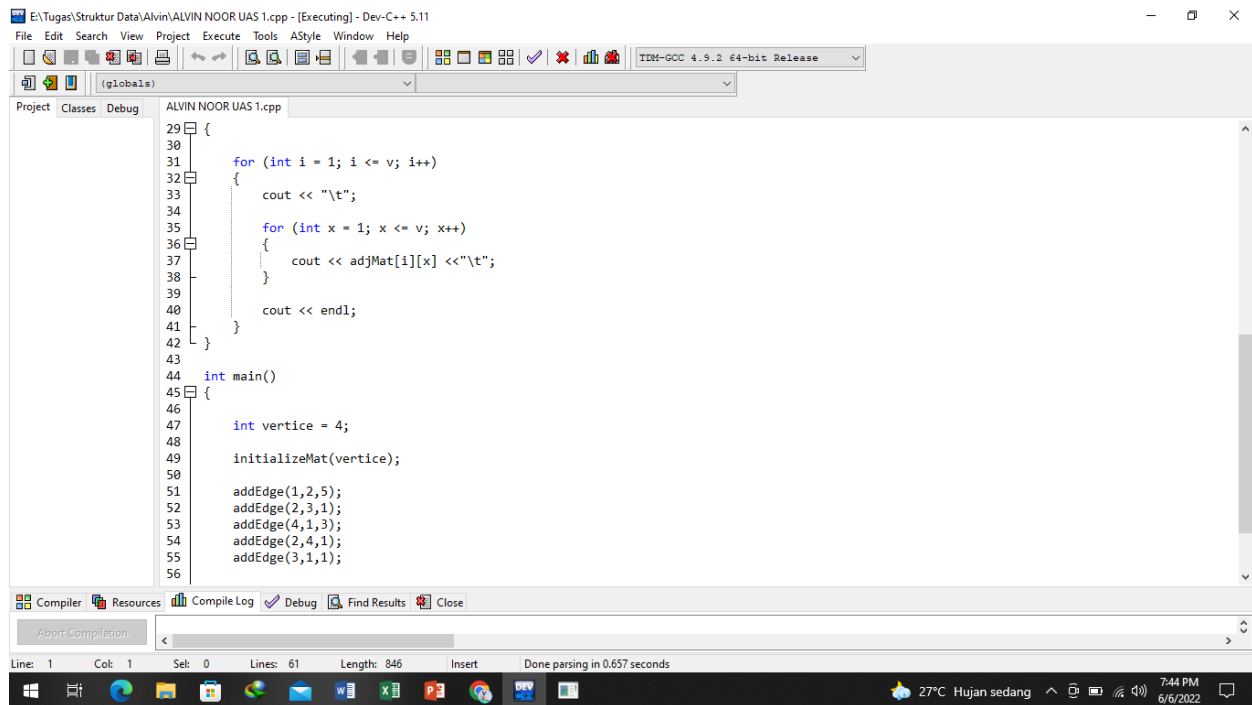
    displayMat(vertice);

    return 0;
}
```

## A. KODINGAN NOMER 1



```
1 #include<iostream>
2 #define Max 100
3
4 using namespace std;
5
6 int adjMat[Max][Max];
7
8 // Jadikan matriks nol//
9 void initializeMat(int v)
10 {
11     for(int i = 0; i < v; i++)
12     {
13         for(int x = 0; x < v; x++)
14         {
15             adjMat[i][x] = 0;
16         }
17     }
18 }
19
20 // Tambahkan tepi ke grafik untuk membuatnya lebih terhubung//
21 void addEdge(int u, int v, int w)
22 {
23     adjMat[u][v] = w;
24     adjMat[v][u] = w;
25 }
26
27 // Cetak matriks yang sudah di input//
28 void displayMat(int v)
```



```
29 {
30     for (int i = 1; i <= v; i++)
31     {
32         cout << "\t";
33
34         for (int x = 1; x <= v; x++)
35         {
36             cout << adjMat[i][x] << "\t";
37         }
38
39         cout << endl;
40     }
41 }
42
43
44 int main()
45 {
46     int vertice = 4;
47
48     initializeMat(vertice);
49
50     addEdge(1,2,5);
51     addEdge(2,3,1);
52     addEdge(4,1,3);
53     addEdge(2,4,1);
54     addEdge(3,1,1);
55
56 }
```

```
34
35     for (int x = 1; x <= v; x++)
36     {
37         cout << adjMat[x][x] << "\t";
38     }
39
40     cout << endl;
41 }
42
43
44 int main()
45 {
46
47     int vertice = 4;
48
49     initializeMat(vertice);
50
51     addEdge(1,2,5);
52     addEdge(2,3,1);
53     addEdge(4,1,3);
54     addEdge(2,4,1);
55     addEdge(3,1,1);
56
57     displayMat(vertice);
58
59     return 0;
60 }
61
```

## A. OUTPUT

```
0      5      1      3
5      0      1      1
1      1      0      0
3      1      0      0

-----
Process exited after 0.04705 seconds with return value 0
Press any key to continue . . .
```

## CONTOH KODINGAN NO.2

```
#include <iostream>
#include <conio.h>
#include <string.h>
using namespace std;
int main()
{
    char kota1,kota2,kota3,kota4,kota5;
    int jumlah,panjang, hasil1,hasil2,hasil3,hasil4,hasil5,hasil6,hasil7;

    cout<<"* Jumlah kota yang berada di kerajaan Britan : "<< endl;
    cin>>jumlah;

    // vertex declaration//
    // displaying each vertex//
    cout<<"Kota Pertama : ";
    cin>>kota1;
    cout<<"Kota Kedua  : ";
    cin>>kota2;
    cout<<"Kota Ketiga : ";
    cin>>kota3;
    cout<<"Kota Keempat : ";
    cin>>kota4;
    cout<<"Kota kelima : ";
    cin>>kota5;
```

```

cout<<endl;

// edge declaration//
// displays every edge that occurs//
cout<<"* Sisi-sisinya adalah : "<<endl<<endl;
cout<<kota1<<kota2<<" ";
cout<<kota1<<kota4<<" ";
cout<<kota1<<kota5<<" ";
cout<<kota2<<kota3<<" ";
cout<<kota3<<kota5<<" ";
cout<<kota3<<kota4<<" ";
cout<<kota4<<kota5<<endl<<endl;

// weight declaration//
// displays the length of the road connecting the vertex//
cout<<"* Panjang jalan antar kota : "<<endl;
cout<<"panjang "<<kota1<<" ke "<<kota2<<" : "; cin>> hasil1;
cout<<"panjang "<<kota1<<" ke "<<kota4<<" : "; cin>> hasil2;
cout<<"panjang "<<kota1<<" ke "<<kota5<<" : "; cin>> hasil3;
cout<<"panjang "<<kota2<<" ke "<<kota3<<" : "; cin>> hasil4;
cout<<"panjang "<<kota3<<" ke "<<kota5<<" : "; cin>> hasil5;
cout<<"panjang "<<kota3<<" ke "<<kota4<<" : "; cin>> hasil6;
cout<<"panjang "<<kota4<<" ke "<<kota5<<" : "; cin>> hasil7;

cout<<endl;

cout<<"* seluruh jalan yang ada dalam kerajaan britan dan panjang jalannya : "<< endl;
cout<< "("<<kota1<<","<<kota2<<","<<hasil1<<") ";

```

```
cout<<"("<<kota1<<","<<kota4<<","<<hasil2<<) ";
cout<<"("<<kota1<<","<<kota5<<","<<hasil3<<) ";
cout<<"("<<kota2<<","<<kota3<<","<<hasil4<<) ";
cout<<"("<<kota3<<","<<kota5<<","<<hasil5<<) ";
cout<<"("<<kota3<<","<<kota4<<","<<hasil6<<) ";
cout<<"("<<kota4<<","<<kota5<<","<<hasil7<<) ";
```

```
cout<<endl<<endl;
```

```
cout<<"* kota tempat pedagang sekarang berada : "<<endl<<endl;
cout<<kota1;
```

```
cout<<endl<<endl;
```

```
cout<<"* kota yang diserang naga : "<<endl<<endl;
cout<<kota3;
```

```
cout<<endl<<endl;
```

```
cout<<"* kota yang memiliki kastil : "<<endl<<endl;
cout<<kota5;
```

```
cout<<endl<<endl;
```

```
cout<<"* jalan yang paling cepat ditempuh : "<<endl<<endl;
cout<<kota1<<"-"<<kota4<<"-"<<kota5<<endl;
```

```
cout<<endl<<endl;
```



```
cout<< "* dengan jarak : "<<endl<<endl;
```

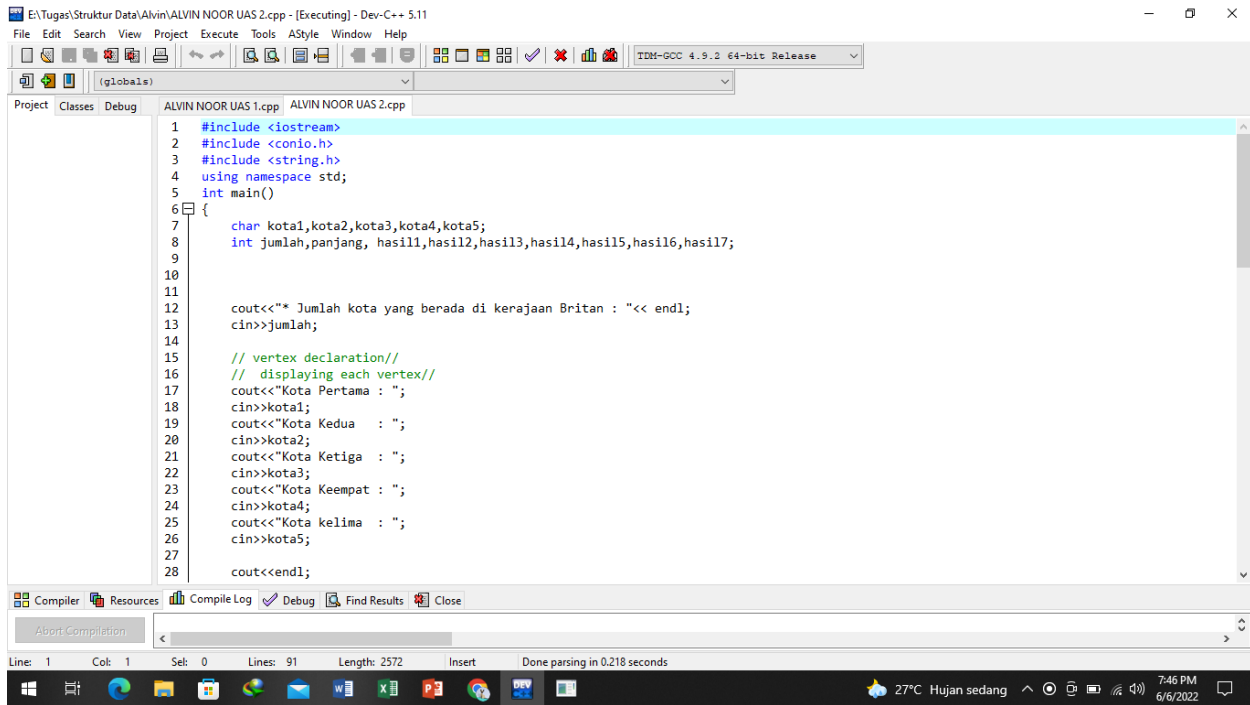
```
cout<<hasil2+hasil7<<endl<<endl;
```

```
getch();
```

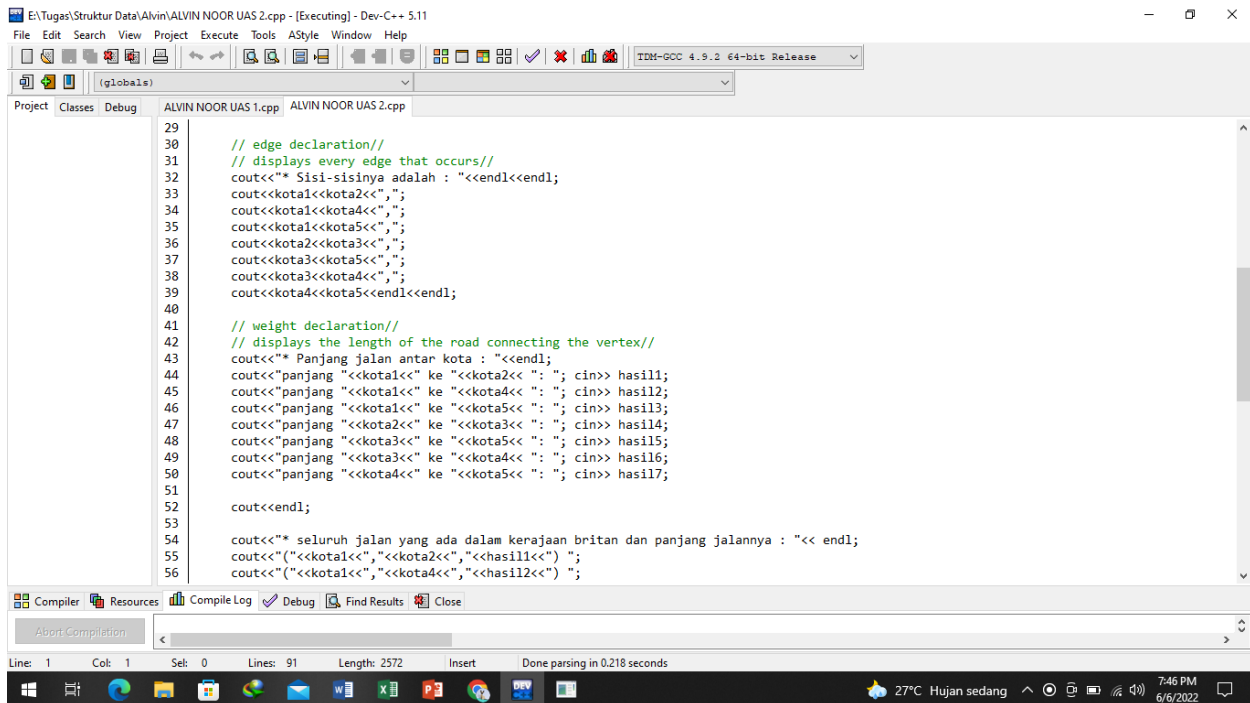
```
return 0;
```

```
}
```

## B. KODINGAN NOMER 2



```
1 #include <iostream>
2 #include <conio.h>
3 #include <string.h>
4 using namespace std;
5 int main()
6 {
7     char kota1,kota2,kota3,kota4,kota5;
8     int jumlah,panjang, hasil1,hasil2,hasil3,hasil4,hasil5,hasil6,hasil7;
9
10
11
12     cout<<"* Jumlah kota yang berada di kerajaan Britan : "<< endl;
13     cin>>jumlah;
14
15     // vertex declaration//
16     // displaying each vertex//
17     cout<<"Kota Pertama : ";
18     cin>>kota1;
19     cout<<"Kota Kedua : ";
20     cin>>kota2;
21     cout<<"Kota Ketiga : ";
22     cin>>kota3;
23     cout<<"Kota Keempat : ";
24     cin>>kota4;
25     cout<<"Kota kelima : ";
26     cin>>kota5;
27
28     cout<<endl;
```



```
29
30     // edge declaration//
31     // displays every edge that occurs//
32     cout<<"* Sisi-sisinya adalah : "<<endl<<endl;
33     cout<<kota1<<kota2<<",";
34     cout<<kota1<<kota4<<",";
35     cout<<kota1<<kota5<<",";
36     cout<<kota2<<kota3<<",";
37     cout<<kota3<<kota5<<",";
38     cout<<kota3<<kota4<<",";
39     cout<<kota4<<kota5<<endl<<endl;
40
41     // weight declaration//
42     // displays the length of the road connecting the vertex//
43     cout<<"* Panjang jalan antar kota : "<<endl;
44     cout<<"panjang "<<kota1<<" ke "<<kota2<<" : "; cin>> hasil1;
45     cout<<"panjang "<<kota1<<" ke "<<kota4<<" : "; cin>> hasil2;
46     cout<<"panjang "<<kota1<<" ke "<<kota5<<" : "; cin>> hasil3;
47     cout<<"panjang "<<kota2<<" ke "<<kota3<<" : "; cin>> hasil4;
48     cout<<"panjang "<<kota3<<" ke "<<kota5<<" : "; cin>> hasil5;
49     cout<<"panjang "<<kota3<<" ke "<<kota4<<" : "; cin>> hasil6;
50     cout<<"panjang "<<kota4<<" ke "<<kota5<<" : "; cin>> hasil7;
51
52     cout<<endl;
53
54     cout<<"* seluruh jalan yang ada dalam kerajaan britan dan panjang jalannya : "<< endl;
55     cout<<("(<<kota1<<","<<kota2<<","<<hasil1<<) ";
56     cout<<("(<<kota1<<","<<kota4<<","<<hasil2<<) ";
```

E:\Tugas\Struktur Data\Alvin\ALVIN NOOR UAS 2.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(glibc)

Project Classes Debug ALVIN NOOR UAS 1.cpp ALVIN NOOR UAS 2.cpp

```
57     cout<<"("<<kota1<<","<<kota5<<","<<hasil3<<") ";
58     cout<<"("<<kota2<<","<<kota3<<","<<hasil4<<") ";
59     cout<<"("<<kota3<<","<<kota5<<","<<hasil5<<") ";
60     cout<<"("<<kota3<<","<<kota4<<","<<hasil6<<") ";
61     cout<<"("<<kota4<<","<<kota5<<","<<hasil7<<") ";
62
63     cout<<endl<<endl;
64
65     cout<<"* kota tempat pedagang sekarang berada : "<<endl<<endl;
66     cout<<kota1;
67
68     cout<<endl<<endl;
69
70     cout<<"* kota yang diserang naga : "<<endl<<endl;
71     cout<<kota3;
72
73     cout<<endl<<endl;
74
75     cout<<"* kota yang memiliki kastil : "<<endl<<endl;
76     cout<<kota5;
77
78     cout<<endl<<endl;
79
80     cout<<"* jalan yang paling cepat ditempuh : "<<endl<<endl;
81     cout<<kota1<<"-"<<kota4<<"-"<<kota5<<endl;
82
83     cout<<endl<<endl;
84
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 1 Col: 1 Sek: 0 Lines: 91 Length: 2572 Insert Done parsing in 0.218 seconds

27°C Hujan sedang 7:46 PM 6/6/2022

E:\Tugas\Struktur Data\Alvin\ALVIN NOOR UAS 2.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(glibc)

Project Classes Debug ALVIN NOOR UAS 1.cpp ALVIN NOOR UAS 2.cpp

```
64     cout<<"* kota tempat pedagang sekarang berada : "<<endl<<endl;
65     cout<<kota1;
66
67     cout<<endl<<endl;
68
69     cout<<"* kota yang diserang naga : "<<endl<<endl;
70     cout<<kota3;
71
72     cout<<endl<<endl;
73
74     cout<<"* kota yang memiliki kastil : "<<endl<<endl;
75     cout<<kota5;
76
77     cout<<endl<<endl;
78
79     cout<<"* jalan yang paling cepat ditempuh : "<<endl<<endl;
80     cout<<kota1<<"-"<<kota4<<"-"<<kota5<<endl;
81
82     cout<<endl<<endl;
83
84     cout<<"* dengan jarak : "<<endl<<endl;
85     cout<<hasil2+hasil7<<endl<<endl;
86
87
88
89     getch();
90     return 0;
91 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Line: 1 Col: 1 Sek: 0 Lines: 91 Length: 2572 Insert Done parsing in 0.218 seconds

27°C Hujan sedang 7:46 PM 6/6/2022

## C. OUTPUT

```
E:\Tugas\Struktur Data\Alvin\ALVIN NOOR UAS 2.exe
* Jumlah kota yang berada di kerajaan Britan :
5
Kota Pertama : 1
Kota Kedua : 2
Kota Ketiga : 3
Kota Keempat : 4
Kota kelima : 5

* Sisi-sisinya adalah :
12,14,15,23,35,34,45

* Panjang jalan antar kota :
panjang 1 ke 2: 12
panjang 1 ke 4: 11
panjang 1 ke 5: 30
panjang 2 ke 3: 14
panjang 3 ke 5: 5
panjang 3 ke 4: 15
panjang 4 ke 5: 10

* seluruh jalan yang ada dalam kerajaan britan dan panjang jalannya :
(1,2,12) (1,4,11) (1,5,30) (2,3,14) (3,5,5) (3,4,15) (4,5,10)

* kota tempat pedagang sekarang berada :
1

* kota yang diserang naga :
3

* kota yang memiliki kastil :
5

* jalan yang paling cepat ditempuh :
1-4-5

* dengan jarak :
21
```

Windows taskbar at the bottom shows icons for File Explorer, Microsoft Edge, Task View, Mail, Word, Excel, PowerPoint, and Chrome. The system tray on the right displays the date and time as 7:47 PM on 6/6/2022, along with weather information: 27°C Hujan sedang.