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## **Modul 6**

### **Menggunakan Tools Visual Studio Code**

1. Analis program di bawah ini :

```
#include <iostream>

using namespace std;

int matriks [4][4]; int i, j;

int main ()
{
    cout<< "Isi data matriks" << endl;
    for(i=0; i<j; i++)
    {
        for (j=0; j<i; j++)
        {
            cout<< "Matriks ["<<i<<"]["<<j<<"]:"; cin>>matriks [i][j];
        }
    }

    cout<<"Hasil data inputan matriks 4*4 :"<<endl;
    for(i=0; i<4; i++)
    {
        for (j=0; j<4; j++)
        {
            cout<<matriks [i][j]<<" ";
        }
        cout<<endl;
    }
}
```

a. Lakukan proses Kompilasi

```
#include <iostream>
```

```

using namespace std;
int matriks [4][4]; int i, j;
int main ()
{
    cout<< "Isi data matriks" << endl;
    for(i=0; i<j; i++)
    {
        for (j=0; j<i; j++)
        {
            cout<< "Matriks ["<<i<<"]["<<j<<"]:"; cin>>matriks [i][j];
        }
    }
    cout<<"Hasil data inputan matriks 4*4 :"<<endl;
    for(i=0; i<4; i++)
    {
        for (j=0; j<4; j++)
        {
            cout<<matriks [i][j]<<" ";
        }
        cout<<endl;
    }
}

```

b. Jalankan program diatas dan amati hasilnya

```

#include <iostream>
using namespace std;
int matriks [4][4]; int i, j;
int main ()
{
    cout<< "Isi data matriks" << endl;
    for(i=0; i<j; i++)
    {
        for (j=0; j<i; j++)
        {
            cout<< "Matriks ["<<i<<"]["<<j<<"]:"; cin>>matriks [i][j];
        }
    }
    cout<<"Hasil data inputan matriks 4*4 :"<<endl;
    for(i=0; i<4; i++)
    {
        for (j=0; j<4; j++)
        {
            cout<<matriks [i][j]<<" ";
        }
        cout<<endl;
    }
}

```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\Muhammad Rizal Nur F> cd "c:\Users\Muhammad Rizal Nur F\OneDrive\文档\Belajar Form\New folder\File tugas\Algo dan Pemrograman\" ; if ($?) { g++ tugasmandirim6.cpp -o tugasmandirim6 } ; if ($?) { .\tugasmandirim6 }
Isi data matriks
Hasil data inputan matriks 4*4 :
0 0 0 0
0 0 0 0
0 0 0 0
0 0 0 0
PS C:\Users\Muhammad Rizal Nur F\OneDrive\文档\Belajar Form\New folder\File tugas\Algo dan Pemrograman>
```

menggunakan i dan j dalam kondisi loop sebelum mereka diinisialisasi, yang dapat menyebabkan perilaku yang tidak terdefinisi.

c. Ubahlah agar matrik dapat diisi secara dinamis

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

int main ()
{
    int n, m;
    cout << "Masukkan jumlah baris matriks: ";
    cin >> n;
    cout << "Masukkan jumlah kolom matriks: ";
    cin >> m;

    int matriks[n][m];
    int i, j;

    cout << "Isi data matriks" << endl;
    for(i=0; i<n; i++)
    {
        for (j=0; j<m; j++)
        {
            cout << "Matriks [" << i << "][" << j << "]: ";
            cin >> matriks[i][j];
        }
    }

    cout << "Hasil data inputan matriks " << n << "*" << m << " : " << endl;
    for(i=0; i<n; i++)
    {
        for (j=0; j<m; j++)
        {
            cout << matriks[i][j] << " ";
        }
        cout << endl;
    }
}
```

```

    return 0;
}

```

The screenshot shows a C++ IDE with a terminal window. The terminal displays the following output:

```

Isi data matriks
Matriks [0][0]: 2
Matriks [0][1]: 1
Matriks [0][2]: 4
Matriks [0][3]: 3
Matriks [1][0]: 1
Matriks [1][1]: 2
Matriks [1][2]: 3
Matriks [1][3]: 4
Hasil data inputan matriks 2*4 :
2 1 4 3
1 2 3 4
PS C:\Users\Muhammad Rizal Nur F\OneDrive\文档\Belajar Form\New folder\File tugas\Algo dan Pemrograman>

```

The IDE interface includes tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (active), and PORTS. The status bar at the bottom indicates the current line and column (Ln 24, Col 1), the number of spaces (4), the encoding (UTF-8), the line ending (CRLF), the language (C++), and the operating system (Win32).

3. Buatlah program menggunakan array dimensi 3 dalam membuat tampilan 3 dimensi berbentuk benda

```

#include<iostream>
using namespace std;

int main() {
    int x, y, z;
    int cube[10][10][10] = {
        {
            {0,0,0,0,0,0,0,0,0,0},
            {0,0,0,1,1,1,1,1,1,1},
            {0,0,1,1,1,1,1,1,1,2},
            {0,1,1,1,1,1,1,1,0,2},
            {1,1,1,1,1,1,1,0,0,2},
            {2,0,0,0,0,0,0,2,0,0,2},
            {2,0,0,0,0,0,0,2,0,0,2},
            {2,0,0,0,0,0,0,2,0,2,0},
            {2,3,3,3,3,3,2,2,0,0},
            {0,0,0,0,0,0,0,0,0,0}
        }
    };

    for (x = 0; x < 10; x++) {
        for (y = 0; y < 10; y++) {
            for (z = 0; z < 10; z++) {

                if (cube[x][y][z] == 0)
                    cout << " ";

                else if (cube[x][y][z] == 1)
                    cout << "-";

                else if (cube[x][y][z] == 2)

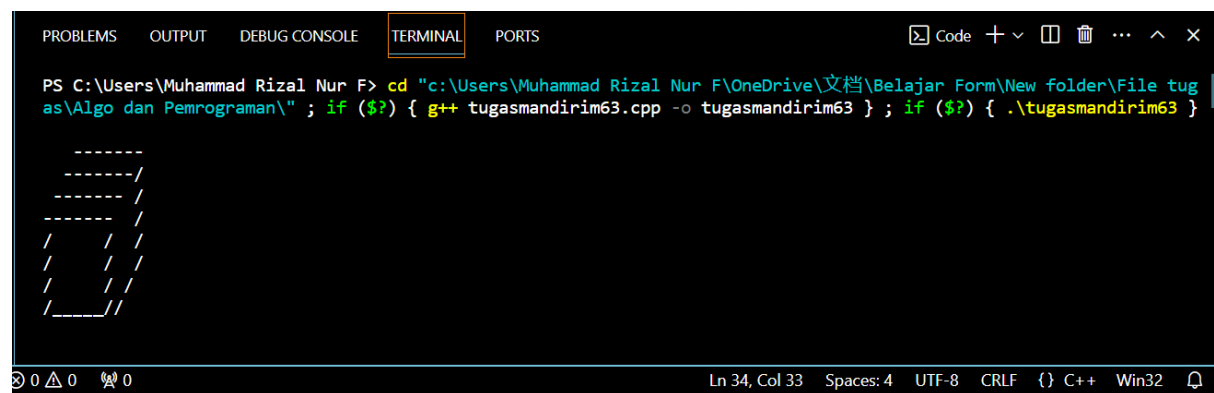
```

```

        cout << "/";
    else if (cube[x][y][z] == 3)
        cout << "_";
    else
        cout << '\x20';
    }
    cout << endl;
}
cout << endl;
}

return 0;
}

```



Visual Studio Code interface showing the terminal output of a C++ program. The terminal window is titled "TERMINAL" and shows the following commands and output:

```

PS C:\Users\Muhammad Rizal Nur F> cd "c:\Users\Muhammad Rizal Nur F\OneDrive\文档\Belajar Form\New folder\File tugas\Algo dan Pemrograman\" ; if ($?) { g++ tugasmandirim63.cpp -o tugasmandirim63 } ; if ($?) { .\tugasmandirim63 }

```

The output of the program is a 3D cube structure represented by characters:

```

      -----
     /-----/
    /-----/
   / / / / /
  / / / / /
 / / / / /
/_/_/_/_/_/

```

The status bar at the bottom indicates: Ln 34, Col 33, Spaces: 4, UTF-8, CRLF, {}, C++, Win32.