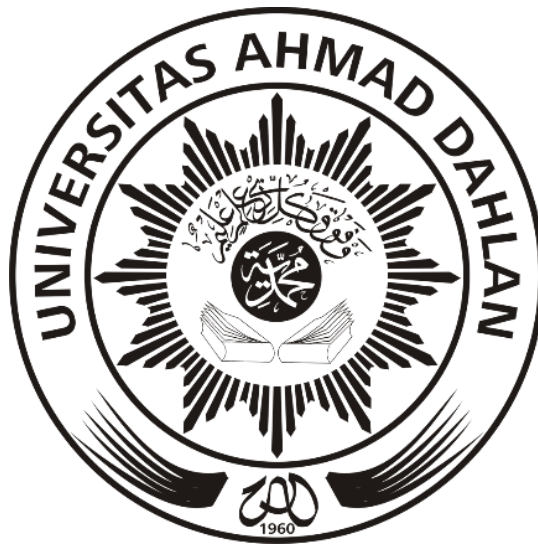


**LAPORAN**  
**PRAKTIKUM ALGORITMA PEMROGRAMAN**



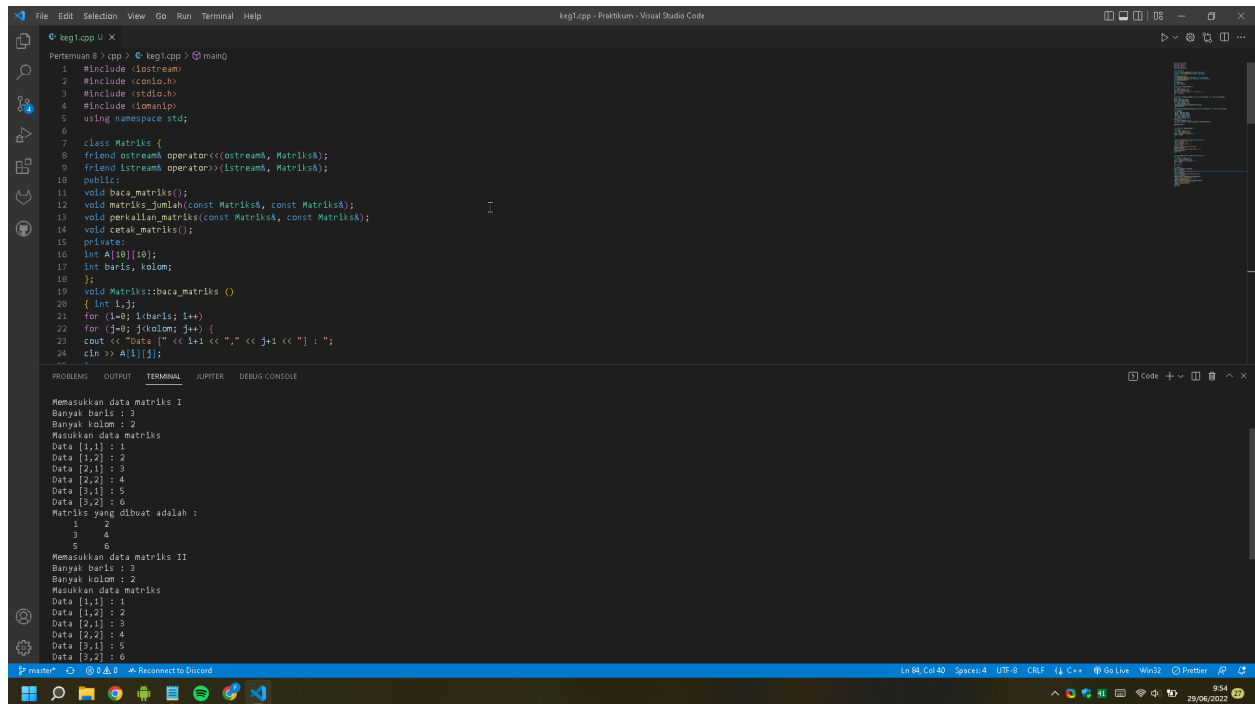
**Disusun Oleh:**  
**FARID HIBATURRACHMAN (2100018444) - KELAS I**

**PROGRAM STUDI INFORMATIKA**  
**FAKULTAS TEKNOLOGI INDUSTRI**  
**UNIVERSITAS AHMAD DAHLAN**

**JUNI 2022**

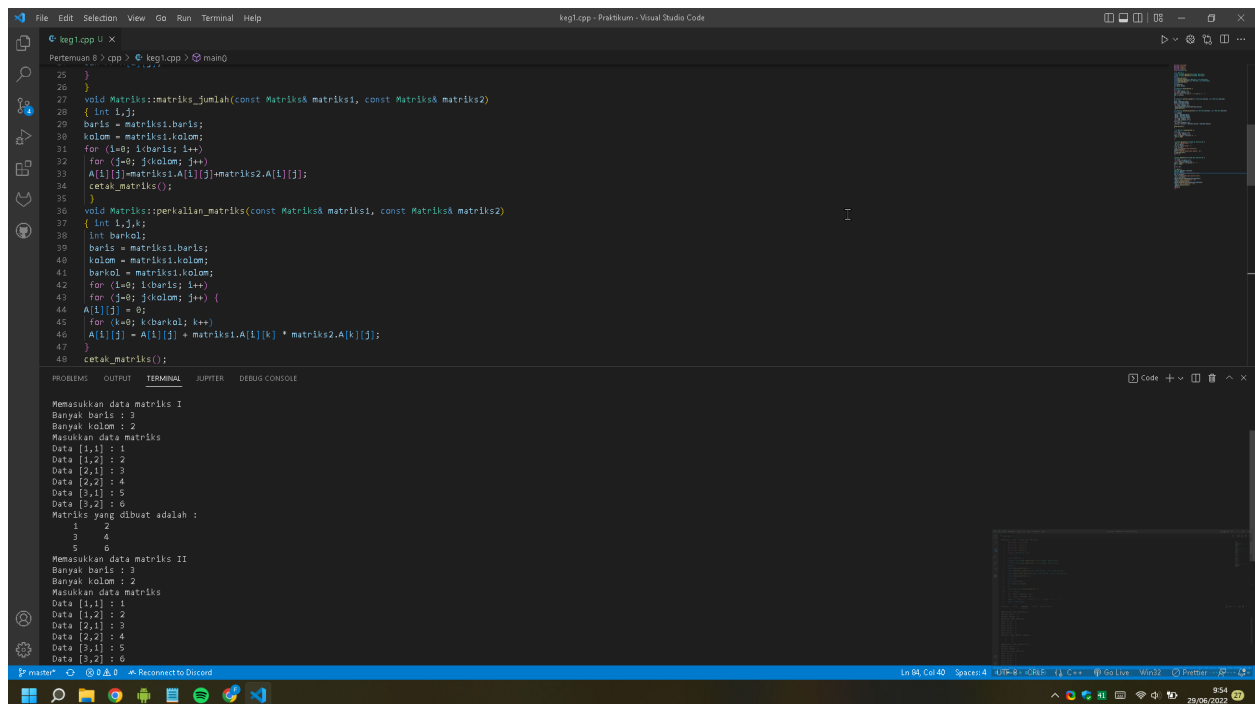
## Kegiatan

### Source code + hasil run



```
1 #include <iostream>
2 #include <conio.h>
3 #include <stdio.h>
4 #include <iomanip>
5 using namespace std;
6
7 class Matriks {
8     friend ostream& operator<<(ostream&, Matriks&);
9     friend istream& operator>>(istream&, Matriks&);
10 public:
11     void baca_matriks();
12     void matriks_jumlah(const Matriks&, const Matriks&);
13     void perkalian_matriks(const Matriks&, const Matriks&);
14     void cetak_matriks();
15 private:
16     int A[10][10];
17     int baris, kolom;
18 };
19 void Matriks::baca_matriks ()
20 { int i,j;
21   for (i=0; i<baris; i++)
22     for (j=0; j<kolom; j++) {
23       cout << "Masukkan A[" << i+1 << "," << j+1 << " ] : ";
24       cin >> A[i][j];
25     }
26 }
```

Memasukkan data matriks I  
Banyak baris : 3  
Banyak kolom : 2  
Masukkan data matriks  
Data [1,1] : 1  
Data [1,2] : 2  
Data [2,1] : 3  
Data [2,2] : 4  
Data [3,1] : 5  
Data [3,2] : 6  
Matriks yang dibuat adalah :  
1 2  
3 4  
5 6  
Memasukkan data matriks II  
Banyak baris : 3  
Banyak kolom : 2  
Masukkan data matriks  
Data [1,1] : 1  
Data [1,2] : 2  
Data [2,1] : 3  
Data [2,2] : 4  
Data [3,1] : 5  
Data [3,2] : 6



```
25 }
26 }
27 void Matriks::jumlah(const Matriks& matriks1, const Matriks& matriks2)
28 { int i,j;
29   baris = matriks1.baris;
30   kolom = matriks1.kolom;
31   for (i=0; i<baris; i++)
32     for (j=0; j<kolom; j++)
33       A[i][j]=matriks1.A[i][j]+matriks2.A[i][j];
34   cetak_matriks();
35 }
36 void Matriks::perkalian_matriks(const Matriks& matriks1, const Matriks& matriks2)
37 { int i,j,k;
38   int baris1;
39   baris = matriks1.baris;
40   kolom = matriks1.kolom;
41   baris2 = matriks2.baris;
42   baris2 = matriks2.kolom;
43   for (i=0; i<baris; i++)
44     for (j=0; j<kolom; j++) {
45       A[i][j] = 0;
46       for (k=0; k<baris2; k++)
47         A[i][j] = A[i][j] + matriks1.A[i][k] * matriks2.A[k][j];
48     }
49   cetak_matriks();
50 }
```

Memasukkan data matriks I  
Banyak baris : 3  
Banyak kolom : 2  
Masukkan data matriks  
Data [1,1] : 1  
Data [1,2] : 2  
Data [2,1] : 3  
Data [2,2] : 4  
Data [3,1] : 5  
Data [3,2] : 6  
Matriks yang dibuat adalah :  
1 2  
3 4  
5 6  
Memasukkan data matriks II  
Banyak baris : 3  
Banyak kolom : 2  
Masukkan data matriks  
Data [1,1] : 1  
Data [1,2] : 2  
Data [2,1] : 3  
Data [2,2] : 4  
Data [3,1] : 5  
Data [3,2] : 6

```
File Edit Selection View Go Run Terminal Help
kgl1.cpp - Pratikum - Visual Studio Code

kgl1.cpp U X
Pertemuan 8 > cpp > kgl1.cpp > main()
46 A[i][j] = A[i][j] + matriks1.A[i][k] * matriks2.A[k][j];
47 }
48 cetak_matriks();
49 }
50
51 void Matriks::cetak_matriks ()
52 {
53     for (i=0; i<baris; i++)
54     {
55         for (j=0; j<kolom; j++)
56             cout << setw(5) << A[i][j] << " ";
57         cout << endl;
58     }
59 }
60
61 ostream operator<<(ostream& out, Matriks& A) {
62     out << "Banyak baris : ";
63     out << A.baris;
64     out << "Banyak kolom : ";
65     out << A.kolom;
66     out << "Masukkan data matriks\n";
67     A.baca_matriks();
68     out << "Matriks yang dibuat adalah : \n";
69     A.cetak_matriks();
70     return out;
71 }

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE
Data [1,2] : 2
Data [2,1] : 3
Data [2,2] : 4
Data [3,1] : 5
Data [3,2] : 6
Matriks yang dibuat adalah :
1 2
3 4
5 6
2 4
6 8
10 12
Hasil Penjumlahan :
2 4
6 8
10 12
7 10
15 22
23 34
Hasil Perkalian :
7 10
15 22
23 34

Ln 94, Col 40 Spaces:4 UTF-8 CRLF C++ Go Live Win32 Printer 954 29/06/2022
```

```
File Edit Selection View Go Run Terminal Help
kgl1.cpp - Pratikum - Visual Studio Code

kgl1.cpp U X
Pertemuan 8 > cpp > kgl1.cpp > main()
72 ostream operator<<(ostream& out, Matriks& A) {
73     int i,j;
74     for (i=0; i<A.baris; i++)
75     {
76         for (j=0; j<A.kolom; j++)
77             cout << setw(5) << A.A[i][j] << " ";
78         cout << endl;
79     }
80     return out;
81 }
82
83 int main() {
84     Matriks matriks1, matriks2;
85     Matriks jumlah;
86     cout << "Masukkan data matriks I \n";
87     cin >> matriks1;
88     cout << "Masukkan data matriks II\n";
89     cin >> matriks2;
90     jumlah.matriks_jumlah(matriks1,matriks2);
91     cout << "Hasil Penjumlahan : \n";
92     jumlah.cetak_matriks();
93     jumlah.perkalian_matriks(matriks1,matriks2);
94     cout << "Hasil Perkalian : \n";
95     jumlah.cetak_matriks();
96     getch();
97     return 0;
98 }

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE
Data [1,2] : 2
Data [2,1] : 3
Data [2,2] : 4
Data [3,1] : 5
Data [3,2] : 6
Matriks yang dibuat adalah :
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Hasil Penjumlahan :
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Ln 94, Col 40 Spaces:4 UTF-8 CRLF C++ Go Live Win32 Printer 954 29/06/2022
```