

LAPORAN PRAKTEK
ALGORITMA PEMROGRAMAN



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```

1  #include <iostream>
2  #include <cstdlib>
3  #include <iomanip>
4  using namespace std;
5
6  class Matriks {
7      friend ostream& operator<<(ostream&, Matriks&);
8      friend istream& operator>>(istream&, Matriks&);
9
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
20 void Matriks::baca_matriks (){
21     int i,j;
22     for (i=0; i<baris; i++)
23         for (j=0; j<kolom; j++) {
24             cout << "Data [" << i+1 << ", " << j+1 << "] : ";
25             cin >> A[i][j];
26         }
27 }
28
29 void Matriks::matriks_jumlah(const Matriks& matriks1, const Matriks& matriks2){
30     int i,j;
31     baris = matriks1.baris;
32     kolom = matriks1.kolom;
33     for (i=0; i<baris; i++)
34         for (j=0; j<kolom; j++)
35             A[i][j]=matriks1.A[i][j]+matriks2.A[i][j];
36     cetak_matriks();
37 }
38
39 void Matriks::perkalian_matriks(const Matriks& matriks1, const Matriks& matriks2){
40     int i,j,k;
41     int barkol;

```

prak.cpp

```
43     kolom = matriks1.kolom;
44     barkol = matriks1.kolom;
45     for (i=0; i<baris; i++)
46     {
47         for (j=0; j<kolom; j++) {
48             A[i][j] = 0;
49             for (k=0; k<barkol; k++)
50                 A[i][j] = A[i][j] + matriks1.A[i][k] * matriks2.A[k][j];
51         }
52     }
53     cetak_matriks();
54
55 void Matriks::cetak_matriks () {
56     int i,j;
57     for (i=0; i<baris; i++){
58         for (j=0; j<kolom; j++){
59             cout << setw(5) << A[i][j] << " ";
60             cout << endl;
61         }
62     }
63
64 istream& operator>>(istream& in, Matriks& A) {
65     cout << "Banyak baris : ";
66     in >> A.baris;
67     cout << "Banyak kolom : ";
68     in >> A.kolom;
69     cout << "Masukkan data matriks\n";
70     A.baca_matriks();
71     cout << "Matriks yang dibuat adalah : \n";
72     A.cetak_matriks();
73     return in;
74 }
75
76 ostream& operator<<(ostream& out, Matriks& A) {
77     int i,j;
78     for (i=0; i<A.baris; i++){
79         for (j=0; j<A.kolom; j++){
80             cout << setw(5) << A.A[i][j] << " ";
81             cout << endl;
82         }
83     }
84     return out;
85 }
```

```
85 int main(int argc, char** argv) {
86     Matriks matriks1, matriks2;
87     Matriks jumlah;
88
89     cout << "Memasukkan data matriks I \n";
90     cin >> matriks1;
91     cout << "Memasukkan data matriks II\n";
92     cin >> matriks2;
93
94     jumlah.matriks_jumlah(matriks1,matriks2);
95     cout << "Hasil Penjumlahan : \n";
96     jumlah.cetak_matriks();
97     jumlah.perkalian_matriks(matriks1,matriks2);
98     cout << "Hasil Perkalian : \n";
99     jumlah.cetak_matriks();
100
101     return 0;
102 }
103
```

```
E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\prak.exe
Memasukkan data matriks I
Banyak baris : 2
Banyak kolom : 2
Masukkan data matriks
Data [1,1] : 1
Data [1,2] : 2
Data [2,1] : 3
Data [2,2] : 4
Matriks yang dibuat adalah :
  1  2
  3  4
Memasukkan data matriks II
Banyak baris : 2
Banyak kolom : 2
Masukkan data matriks
Data [1,1] : 3
Data [1,2] : 4
Data [2,1] : 5
Data [2,2] : 6
Matriks yang dibuat adalah :
  3  4
  5  6
  4  6
  8  10
```

```
E:\KULIAH\SEMUA PRAKTIK II\Alpro\Prak Alpro\8\kode\cpp\prak.exe
  1  2
  3  4
Memasukkan data matriks II
Banyak baris : 2
Banyak kolom : 2
Masukkan data matriks
Data [1,1] : 3
Data [1,2] : 4
Data [2,1] : 5
Data [2,2] : 6
Matriks yang dibuat adalah :
  3  4
  5  6
  4  6
  8  10
Hasil Penjumlahan :
  4  6
  8  10
 13  16
 29  36
Hasil Perkalian :
 13  16
 29  36
```

Output

The screenshot shows a C++ IDE with the following code in `main.cpp`:

```

114     for(int j=6; j<9; j++){
115         kpedia[o]=kode_buku[i][j];
116         o++;
117     }
118 }
119 //judul buku
120 for(int i=0; i<1; i++){
121     for(int j=6; j<9; j++){
122         jpedia[p]=judul_buku[i][j];
123         p++;
124     }
125 }
126 /*output kode buku
127 cout<<"kode\n";
128 for(int i=0; i<3; i++){
129     cout<<kpedia[i]<<" ";
130 }
131 cout<<endl;
132 //output judul buku
133 cout<<"judul\n";
134 for(int i=0; i<3; i++){
135     cout<<jpedia[i]<<" ";
136 }
137 cout<<endl;
138 */
139 //=====

```

The console output shows the program's execution, including prompts for book codes and titles, and the resulting data structure:

```

Input Kode Buku = 012
Input Judul Buku = abc
Input Judul Buku = asd
Input Judul Buku = asd
Input Judul Buku = ssd
Input Judul Buku = fsd
Input Judul Buku = sdd
Input Judul Buku = sda
Input Judul Buku = dfg
Input Judul Buku = dsa
Input Judul Buku = sdf
Input Judul Buku = dsa
Input Judul Buku = sdf
Jenis buku = NOVEL
KODE BUKU =
123
JUDUL BUKU =
abc
asd
asd

Jenis buku = KOMIK
KODE BUKU =
4
5
6

JUDUL BUKU =
ssd
fsd
sdd

```

Input kode dan judul buku

The screenshot shows a C++ IDE with the following code in `main.cpp`:

```

176 cout<<"KODE BUKU = "<<endl;
177 for(int i=0; i<3; i++){
178     cout<<knoval[i];
179 }
180 cout<<endl;
181 cout<<"JUDUL BUKU = "<<endl;
182 for(int i=0; i<3; i++){
183     cout<<jnoval[i]<<endl;
184 }
185 cout<<endl;
186
187 cout<<"Jenis buku = KOMIK"<<endl;
188 cout<<"KODE BUKU = "<<endl;
189 for(int i=0; i<3; i++){
190     cout<<kkomik[i]<<endl;
191 }
192 cout<<endl;
193 cout<<"JUDUL BUKU = "<<endl;
194 for(int i=0; i<3; i++){
195     cout<<jkomik[i]<<endl;
196 }
197 cout<<endl;
198
199 cout<<"Jenis buku = ENSIKLOPEDIA"<<endl;
200 cout<<"KODE BUKU = "<<endl;
201 for(int i=0; i<3; i++){
202     cout<<kpedia[i]<<endl;
203 }

```

The console output shows the program's execution, including prompts for book codes and titles, and the resulting data structure:

```

JUDUL BUKU =
abs
abd
sbd

Jenis buku = KOMIK
KODE BUKU =
400
500
600

JUDUL BUKU =
sdf
dfr
gtr

Jenis buku = ENSIKLOPEDIA
KODE BUKU =
700
800
900

JUDUL BUKU =
fer
fer
trd

Jenis buku = DONGENG
KODE BUKU =
110
120
130

```

Output

Link

<https://replit.com/@fahrulsanaky/MutedNocturnalOpengroup#main.cpp>

<https://github.com/142Eko/Prak-alpro/tree/master/8/kode>