

LAPORAN PRAKTIKUM ALGORITMA DAN PEMROGRAMAN

"Nomor 5, 9, 15, 18"



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PROGRAM STUDI TEKNIK INFORMATIKA

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Nomor 5

```
#include<iostream>
using namespace std;
int main(){
/* 5. Seperti soal nomer tiga, Disuatu kampus 10 mahasiswa
mengikuti ujian mata kuliah "Pemrograman I". Nilai yang
dihasilkan oleh ke 10 mahasiswa tersebut adalah 80, 70, 50,
65, 85, 70, 60, 55, 90, 72. Dengan bantuan program C++.
Buatlah input data dari nilai tersebut dan nilai rata-
ratanya */
int jumlah, a;
    cout << "Masukkan jumlah data nilai: ";
    cin >> jumlah;
    float nilai[11], total, rerata;
    for(int a = 1; a <= jumlah; a++){
        cout << "Nilai ke-"<<a<<" = ";
        cin >> nilai[a];
    }
    for(int b = 1; b <= jumlah; b++){
        total += nilai[b];
    }
    cout << "Total nilai = "<<total<<endl;
    rerata = total/jumlah;
    cout << "Rata-rata ="<<rerata<<endl;

}
```

The screenshot shows the Visual Studio Code interface with a C++ file named `Nomor5.cpp` open. The code is as follows:

```
1 #include<iostream>
2 using namespace std;
3 int main(){
4     /* 5. Seperti soal nomer tiga, Disuatu kampus 10 mahasiswa mengikuti ujian mata kuliah "Pemrograman I". Nilai yang
5
6     int jumlah, a;
7     cout << "Masukkan jumlah data nilai: ";
8     cin >> jumlah;
9
10    float nilai[11], total, rerata;
11    for(int a = 1; a <= jumlah; a++){
12        cout << "Nilai ke-"<<a<<" = ";
13        cin >> nilai[a];
14    }
15    for(int b = 1; b <= jumlah; b++){
16        total += nilai[b];
17    }
18    cout << "Total nilai = "<<total<<endl;
19    rerata = total/jumlah;
20    cout << "Rata-rata ="<<rerata<<endl;
21
22
23 }
```

The Explorer sidebar on the left shows a project structure for "14 NOVEMBER 2022" containing files like `Nama.cpp`, `Nomor5.cpp`, `Nomor5.exe`, `Nomor9.cpp`, `Nomor9.exe`, `Nomor15.cpp`, `Nomor15.exe`, and `Nomor18.cpp`. The status bar at the bottom indicates the current position is Line 15, Column 22.

The screenshot shows a terminal window with the following commands and output:

```
>_ Console x Shell x +
> sh -c make -s
> ./main

Masukkan jumlah data nilai: 10

Nilai ke-1 = 80
Nilai ke-2 = 70
Nilai ke-3 = 50
Nilai ke-4 = 65
Nilai ke-5 = 85
Nilai ke-6 = 70
Nilai ke-7 = 60
Nilai ke-8 = 55
Nilai ke-9 = 90
Nilai ke-10 = 72

Total nilai = 769
Rata-rata =76.9
> |
```

Pseudocode

Deklarasi variabel

Int: jumlah, a

Read (nilai [11], total, rerata)

```
for(int a = 1; a <= jumlah; a++){  
    cout << "Nilai ke-"<<a<<" = ";  
    cin >> nilai[a];  
}  
for(int b = 1; b <= jumlah; b++){  
    total += nilai[b];  
}
```

Endfor

Endfor

Write (rerata = total/jumlah;)

Nomor 9

```
#include<iostream>  
using namespace std;  
int main(){  
    /* 9. Buat array untuk angka genap dan ganjil! */  
  
    int angka[] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10};  
  
    cout << "\t\t\t\t\t Menampilkan Ganjil dan Genap dengan Array  
    \n";  
    cout << endl;  
    cout << "Ganjil: ";  
    for(int i = 0; i < 10; i++){  
        if(angka[i] % 2 != 0){  
            cout << angka[i] << ", ";  
        }  
    }
```

```

    }
    cout << endl;
    cout << "Genap: ";
    for(int j = 0; j < 10; j++){
        if(angka[j] % 2 == 0){
            cout << angka[j] << ", ";
        }
    }
}

```

The screenshot shows the Visual Studio Code interface with a C++ file named `Nomor9.cpp` open. The code is as follows:

```

1  #include<iostream>
2  using namespace std;
3
4  int main(){
5      /* 9. Buat array untuk angka genap dan ganjil! */
6
7      int angka[] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10};
8
9      cout << "\t\t\t\t Menampilkan Ganjil dan Genap dengan Array \n";
10     cout << endl;
11     cout << "Ganjil: ";
12     for(int i = 0; i < 10; i++){
13         if(angka[i] % 2 != 0){
14             cout << angka[i] << ", ";
15         }
16     }
17     cout << endl;
18     cout << "Genap: ";
19     for(int j = 0; j < 10; j++){
20         if(angka[j] % 2 == 0){
21             cout << angka[j] << ", ";
22         }
23     }
24 }
25
26
27

```

The Explorer sidebar on the left shows the project structure with files `Nomor5.cpp`, `Nomor9.cpp`, `Nomor9.exe`, `Nomor15.cpp`, and `Nomor18.cpp`. The bottom status bar indicates the current line and column as `Ln 1, Col 1`.

The screenshot shows the Windows Command Prompt with the following output:

```

Microsoft Windows [Version 10.0.22621.819]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ASUS\OneDrive\Documents\Coding Vs Code\Tugas\14 November 2022>g++ Nomor9.cpp -o Nomor9.exe

C:\Users\ASUS\OneDrive\Documents\Coding Vs Code\Tugas\14 November 2022>Nomor9
    Menampilkan Ganjil dan Genap dengan Array

Ganjil: 1, 3, 5, 7, 9,
Genap: 0, 2, 4, 6, 8,
C:\Users\ASUS\OneDrive\Documents\Coding Vs Code\Tugas\14 November 2022>

```

Pseudocode

Deklarasi variabel

```
int angka[] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10};
```

Read (angka)

```
for(int i = 0; i < 10; i++){  
    if(angka[i] % 2 != 0){  
        cout << angka[i] << ", ";  
    }  
}
```

```
for(int j = 0; j < 10; j++){  
    if(angka[j] % 2 == 0){  
Endfor  
Endfor
```

Write (angka [j], angka [i])

Nomor 15

```
#include <iostream>  
using namespace std;  
int main() {  
    int A [3][2], B [3][2], C [3][2];  
    int angka;  
    int jumlah;  
    // Matriks A  
    cout << "Matriks A" << endl;  
    for(int i = 0; i < 3; i++)  
    {  
        for (int y = 0; y < 2; y++)  
        {
```

```

        cout << "Masukkan angka ke [" << i << "] [" << y
<< "]" = ";
        cin >> A[i][y];
    }
}

// Matriks B
cout << endl;
    cout << "Matriks B" << endl;
    for (int i = 0; i < 3; i++)
    {
        for (int y = 0; y < 2; y++)
        {
            cout << "Masukkan angka ke [" << i << "] [" << y << "] =
";
            cin >> B[i][y];
            jumlah = A[i][y] + B[i][y];
            C[i][y] = jumlah;
        }
    }
// Hasil
cout << endl;
    cout << "Hasil penjumlahan matriks ordo 3x2 tersebut
adalah: " << endl;
    for (int i = 0; i < 3; i++)
    {
        for (int y = 0; y < 2; y++)
        {
            cout << "C [" << i << "] [" << y << "] = " <<
C[i][y] << endl;
        }
    }
}

```

```
File Edit Selection View Go Run Terminal Help
Nomor15.cpp - 14 November 2022 - Visual Studio Code

Nomor15.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int A [3][2], B [3][2], C [3][2];
6     int angka;
7     int jumlah;
8
9     // Matriks A
10    cout << "Matriks A" << endl;
11    for (int i = 0; i < 3; i++)
12    {
13        for (int y = 0; y < 2; y++)
14        {
15            cout << "Masukkan angka ke [" << i << "][" << y << " ] = ";
16            cin >> A[i][y];
17        }
18    }
19
20    // Matriks B
21    cout << endl;
22    cout << "Matriks B" << endl;
23    for (int i = 0; i < 3; i++)
24    {
25        for (int y = 0; y < 2; y++)
26        {
27            cout << "Masukkan angka ke [" << i << "][" << y << " ] = ";
28            cin >> B[i][y];
29            jumlah = A[i][y] + B[i][y];
30            C[i][y] = jumlah;
31        }
32    }
33
34    // Hasil
35    cout << endl;
36    cout << "Hasil penjumlahan matriks ordo 3x2 tersebut adalah: " << endl;
37    for (int i = 0; i < 3; i++)
38    {
39        for (int y = 0; y < 2; y++)
40        {
41            cout << "C [" << i << "][" << y << " ] = " << C[i][y] << endl;
42        }
43    }
44
45
46
47 }
```

```
sh -c make -s
./main
Matriks A
Masukkan angka ke [0] [0] = 9
Masukkan angka ke [0] [1] = 4
Masukkan angka ke [1] [0] = 7
Masukkan angka ke [1] [1] = 5
Masukkan angka ke [2] [0] = 2
Masukkan angka ke [2] [1] = 1

Matriks B
Masukkan angka ke [0] [0] = 0
Masukkan angka ke [0] [1] = 6
Masukkan angka ke [1] [0] = 7
Masukkan angka ke [1] [1] = 3
Masukkan angka ke [2] [0] = 8
Masukkan angka ke [2] [1] = 4

Hasil penjumlahan matriks ordo 3x2 tersebut adalah:
C [0] [0] = 9
C [0] [1] = 10
C [1] [0] = 14
C [1] [1] = 8
C [2] [0] = 10
C [2] [1] = 5
```


Pseudocode

Deklarasi

Int: A [3][2], B [3][2], C [3][2]

Deskripsi

A [3][2]

B [3][2]

C [3][2]

For (i = 0; i < 3; i++)

For (y = 0; y < 2; y++)

Read (A[i][y])

Endfor

For (i = 0; i < 3; i++)

For (y = 0; y < 2; y++)

Read (B[i][y])

Jumlah -> A[i][y] + B[i][y]

Write (C[i][y] -> Jumlah)

Endfor

Endfor

Nomor 18

```
#include <iostream>
using namespace std;
int main() {
    int A [3][2], B [3][2], C [3][2];
    int angka;
    int jumlah;
    // Matriks A
    cout << "Matriks A"<< endl;
    for(int i = 0; i < 3; i++)
    {
        for (int y = 0; y < 2; y++)
```

```

        {
            cout << "Masukkan angka ke [" << i << "] [" << y
<< "]" = ";
            cin >> A[i][y];
        }
    }

    // Matriks B
    cout << endl;
    cout << "Matriks B" << endl;
    for (int i = 0; i < 3; i++)
    {
        for (int y = 0; y < 2; y++)
        {
            cout << "Masukkan angka ke [" << i << "] [" << y << "] =
";
            cin >> B[i][y];
            jumlah = A[i][y] + B[i][y];
            C[i][y] = jumlah;
        }
    }

    // Hasil
    cout << endl;
    cout << "Hasil penjumlahan matriks ordo 3x2 tersebut
adalah: " << endl;
    for (int i = 0; i < 3; i++)
    {
        for (int y = 0; y < 2; y++)
        {
            cout << "C [" << i << "] [" << y << "] = " <<
C[i][y] << endl;
        }
    }
}

```

The screenshot shows a C++ program in a Replit IDE. The code defines two 3x3 matrices, A and B, and calculates their sum, C. Matrix A is initialized with values 5, 8, 7 in the first row and 3, 4, 7 in the second row. Matrix B is initialized with values 9, 10, 16 in the first row and 18, 9, 18 in the second row. The program then prints the resulting matrix C, which contains the element-wise sums of A and B.

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     int A[3][3], B[3][3], C[3][3];
7     int m, n;
8
9     cout<<"\t\t\tProgram Penjumlahan 2 Matriks\n";
10    cout<<"Matriks A (3x3): \n\n";
11
12    for(m=0; m<3; m++)
13    {
14        for(n=0; n<3; n++)
15        {
16            cin>>A[m][n];
17        }
18    }
19    cout<<endl;
20
21    cout<<"Matriks B (3x3): \n\n";
22
23    for(m=0; m<3; m++)
24    {
25        for(n=0; n<3; n++)
26        {
27            cin>>B[m][n];
28        }
29    }
30    cout<<endl;
31
32    cout<<"Hasil: \n\n";
33    for(m=0; m<3; m++)
34    {
35        for(n=0; n<3; n++)
36        {
37            C[m][n]=A[m][n]+B[m][n];
38        }
39    }
40
41    for(m=0; m<3; m++)
42    {
43        for(n=0; n<3; n++)
44        {
45            cout<<"<<A[m][n];
46        }
47        if(m==1)
48        {
49            cout<<"\n";
50        }
51        else
52            cout<<"\t";
53    }
```

The output of the program is as follows:

```
Program Penjumlahan 2 Matriks
Matriks A (3x3):
5
8
7
3
4
7

Matriks B (3x3):
9
10
16
18
9
18

Hasil:
5 8 7 5 8 9 10 16 16
3 4 7 9 14 18 9 9 18
1 0 2 5 8 2 6 0 4
```

Pseudocode

Deklarasi

int: A [3][2], B [3][2], C [3][2]

Deskripsi

A [3][2]

B [3][2]

C [3][2]

for(int i = 0; i < 3; i++)

for(int y = 0; y < 2; y++)

Read (A[m][n])

Endfor

Endfor

for (int i = 0; i < 3; i++)

for (int y = 0; y < 2; y++)

Read (B[i][y])

Jumlah -> A[m][n] + (B[i][y])

```
Write (C[i][y]) -> jumlah  
Endfor  
Endfor
```