

LAPORAN PRAKTIKUM ALGORITMA DAN PEMROGRAMAN



Disusun Oleh:

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**PROGRAM STUDI S-1 TEKNIK INFORMATIKA
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PADJADJARAN
JATINANGOR
2021**

A. LATIHAN

1. Latihan 1

```
/*
Nama Program      : Praktikum10
Nama              : Prames Ray Lopian
NPM               : 140810210059
Tanggal Buat      : 17 November 2021
Deskripsi         : Latihan1
*/

#include <iostream>
using namespace std;

int main()
{
    int num = 4;
    int* pnum = &num;

    cout << "Isi dari num" << " : " << num << endl;
    cout << "Isi pointer num" << " : " << pnum << endl;
    cout << "Nilai yang ditunjuk pointer" << " : " << *pnum << "\n\n";

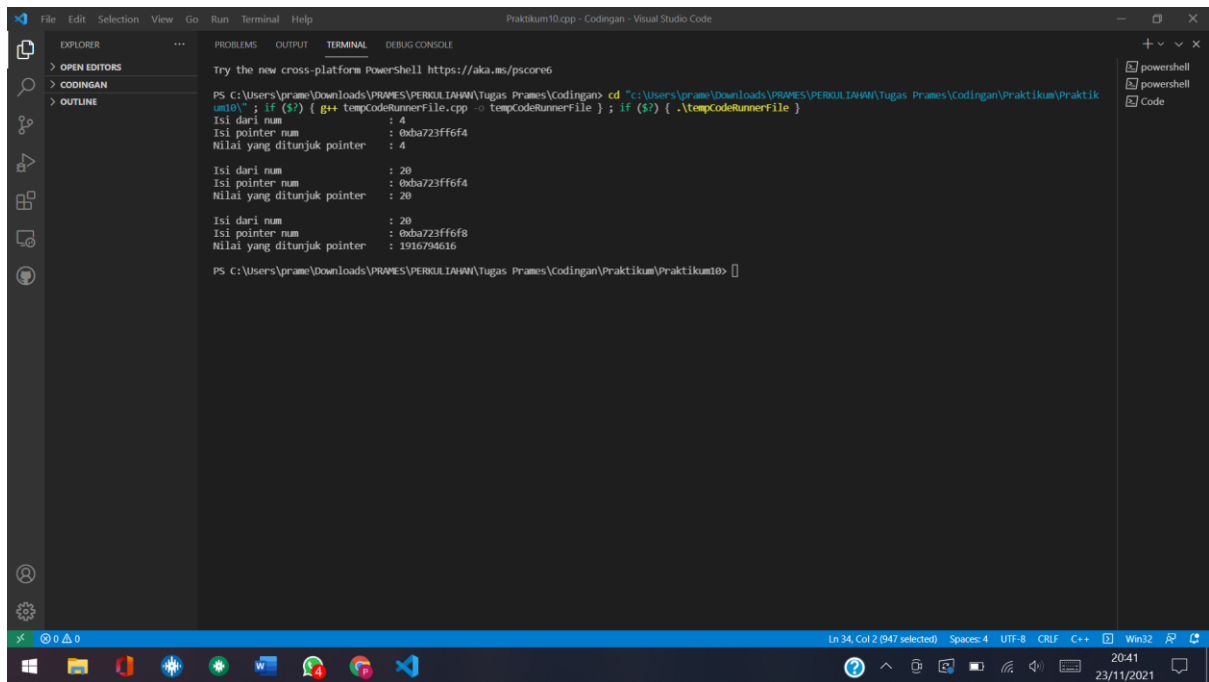
    num *= 5;

    cout << "Isi dari num" << " : " << num << endl;
    cout << "Isi pointer num" << " : " << pnum << endl;
    cout << "Nilai yang ditunjuk pointer" << " : " << *pnum << "\n\n";

    pnum ++;

    cout << "Isi dari num" << " : " << num << endl;
    cout << "Isi pointer num" << " : " << pnum << endl;
    cout << "Nilai yang ditunjuk pointer" << " : " << *pnum << "\n\n";

    delete pnum;
}
```



```
File Edit Selection View Go Run Terminal Help
Praktikum10.cpp - Codingan - Visual Studio Code

EXPLORER
> OPEN EDITORS
> CODINGAN
> OUTLINE

TERMINAL
try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\tugas Prames\Codingan\Praktikum\Praktikum10> cd "c:\Users\prame\Downloads\PRAMES\PERKULIAHAN\tugas Prames\Codingan\Praktikum\Praktikum10"
PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\tugas Prames\Codingan\Praktikum\Praktikum10> g++ tempCodeRunnerFile.cpp -o tempCodeRunnerFile
PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\tugas Prames\Codingan\Praktikum\Praktikum10> .\tempCodeRunnerFile
Isi dari num : 4
Isi pointer num : 00ba723ff6f4
Nilai yang ditunjuk pointer : 4

Isi dari num : 20
Isi pointer num : 00ba723ff6f4
Nilai yang ditunjuk pointer : 20

Isi dari num : 20
Isi pointer num : 00ba723ff6f8
Nilai yang ditunjuk pointer : 1916794616

PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\tugas Prames\Codingan\Praktikum\Praktikum10>
```

2. Latihan 2

```
/*
Nama Program      : Praktikum10
Nama              : Prames Ray Lapien
NPM               : 140810210059
Tanggal Buat      : 17 November 2021
Deskripsi         : Latihan2
*/

#include <iostream>
using namespace std;

void print(int a, int b)
{
    cout << a << ' ' << b << '\n';
}

int main()
{
    int num = 4;
    int &refnum = num;

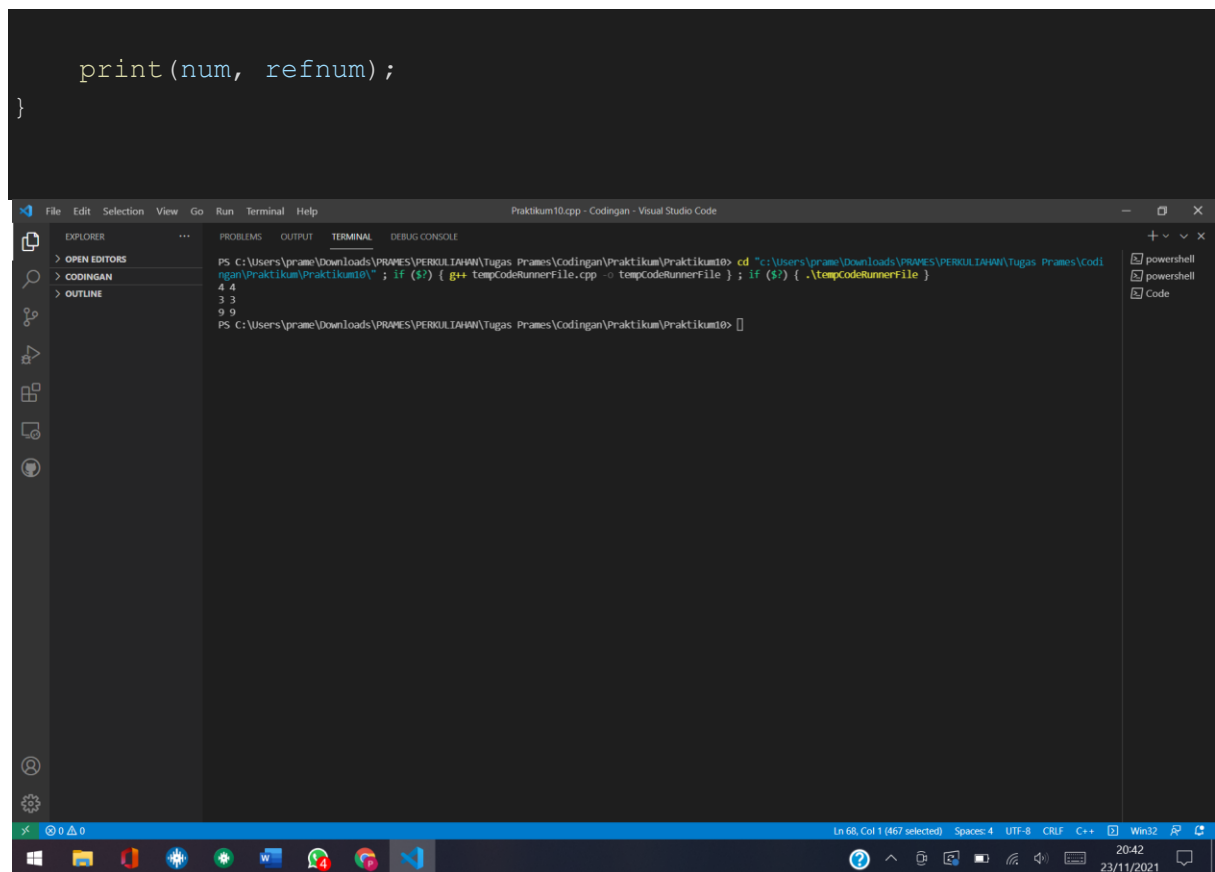
    print(num, refnum);

    num --;

    print(num, refnum);

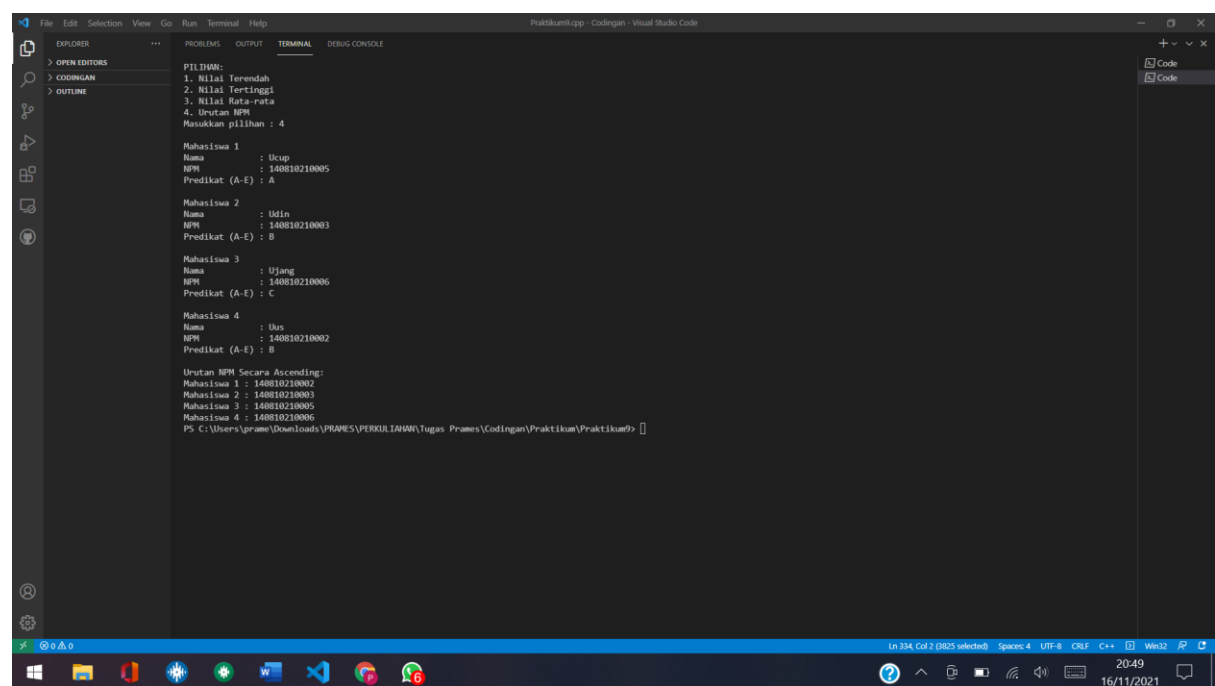
    refnum *= num;
```

```
print(num, refnum);
}
```



The screenshot shows the Visual Studio Code interface with a C++ file named 'Praktikum10.cpp'. The code in the editor is a simple program that prints a 4x4 grid of numbers. The terminal shows the command to compile and run the program, and the output is a 4x4 grid of numbers.

```
PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\Tugas Prames\Codingan\Praktikum\Praktikum10> cd "C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\Tugas Prames\Codingan\Praktikum\Praktikum10"; if ($?) { g++ tempCodeRunnerFile.cpp -o tempCodeRunnerFile }; if ($?) { .\tempCodeRunnerFile }
4 4
3 3
9 9
PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\Tugas Prames\Codingan\Praktikum\Praktikum10>
```



The screenshot shows the Visual Studio Code interface with a C++ file named 'Praktikum1.cpp'. The code in the editor is a program that prompts the user to select a menu option and then displays student data. The terminal shows the command to compile and run the program, and the output is a list of student data.

```
PILIHAN:
1. Nilai Terendah
2. Nilai Tertinggi
3. Nilai Rata-rata
4. Urutan NPM
Masukkan pilihan : 4

Mahasiswa 1
Nama      : Ucup
NPM       : 140810210005
Predikat (A-E) : A

Mahasiswa 2
Nama      : Usin
NPM       : 140810210003
Predikat (A-E) : B

Mahasiswa 3
Nama      : Ujang
NPM       : 140810210006
Predikat (A-E) : C

Mahasiswa 4
Nama      : Use
NPM       : 140810210002
Predikat (A-E) : B

Urutan NPM Secara Ascending:
Mahasiswa 1 : 140810210002
Mahasiswa 2 : 140810210003
Mahasiswa 3 : 140810210005
Mahasiswa 4 : 140810210006
PS C:\Users\prame\Downloads\PRAMES\PERKULIAHAN\Tugas Prames\Codingan\Praktikum\Praktikum0>
```

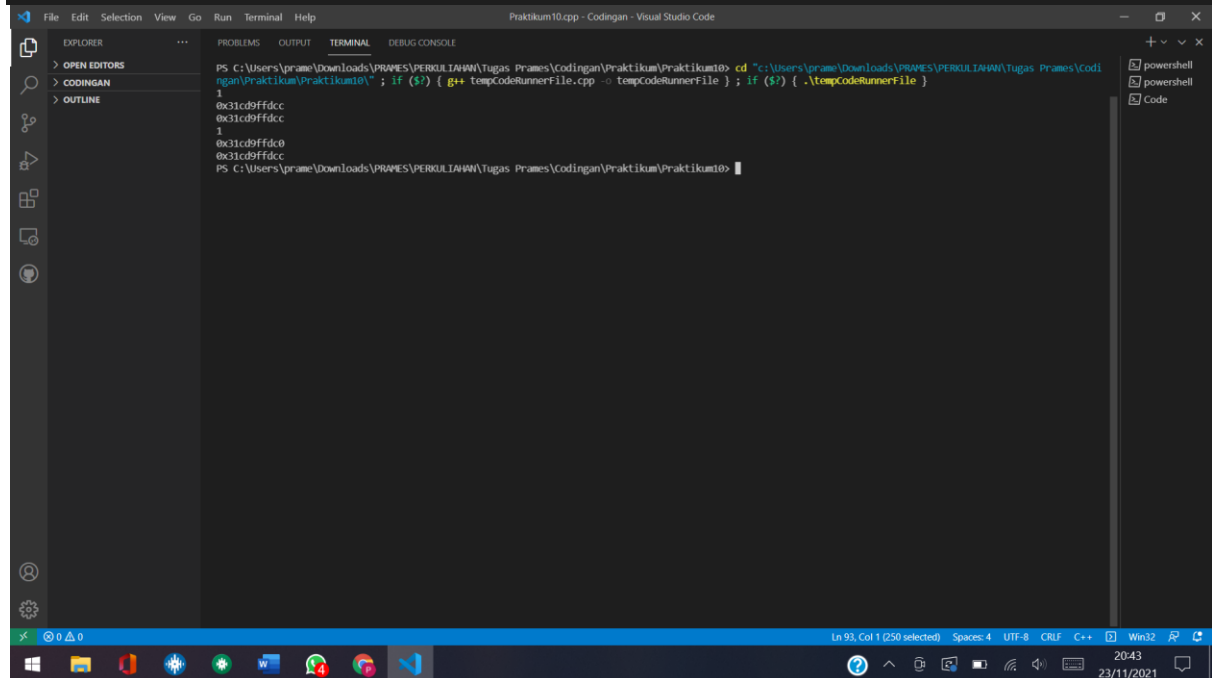
3. Latihan 3

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

int main()
{
```

```
int n = 1;
int* p = &n;

cout << n << endl;
cout << &n << endl;
cout << p << endl;
cout << *p << endl;
cout << &p << endl;
cout << &(*p) << endl;
}
```



4. Latihan 4

```
/*
Nama Program      : Praktikum10
Nama              : Prames Ray Lapien
NPM               : 140810210059
Tanggal Buat      : 17 November 2021
Deskripsi         : Latihan4
*/

#include <iostream>
using namespace std;

struct koordinat
{
    int x;
    int y;
};
```

```
typedef koordinat* ptrkoordinat;

int main()
{
    ptrkoordinat p_pos0 = new koordinat;

    (*p_pos0).x = 8;
    cout << (*p_pos0).x << '\n';

    p_pos0->y = 6;
    cout << p_pos0->y << '\n';

    return 0;
}
```

