

**LAPORAN PRAKTIKUM
ALGORITMA PEMROGRAMAN**

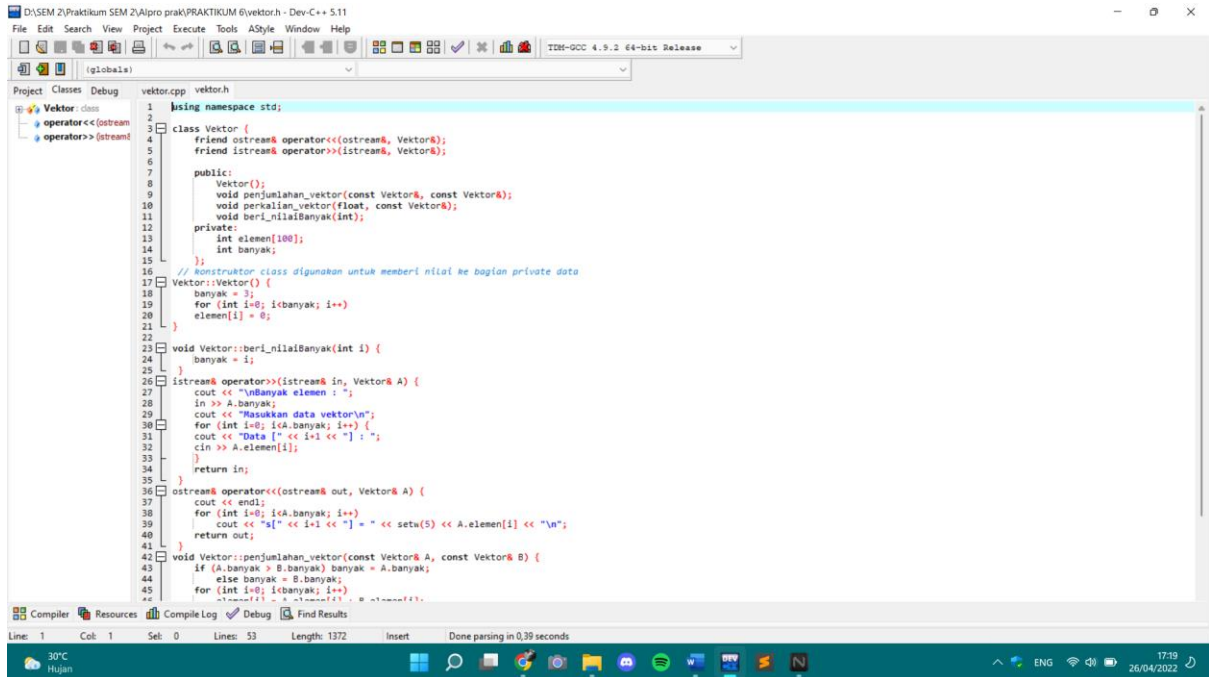


**DI SUSUN OLEH :
Muhammad Faiz Akbar (2100018361)
SELASA 13.30 – Kelas G**

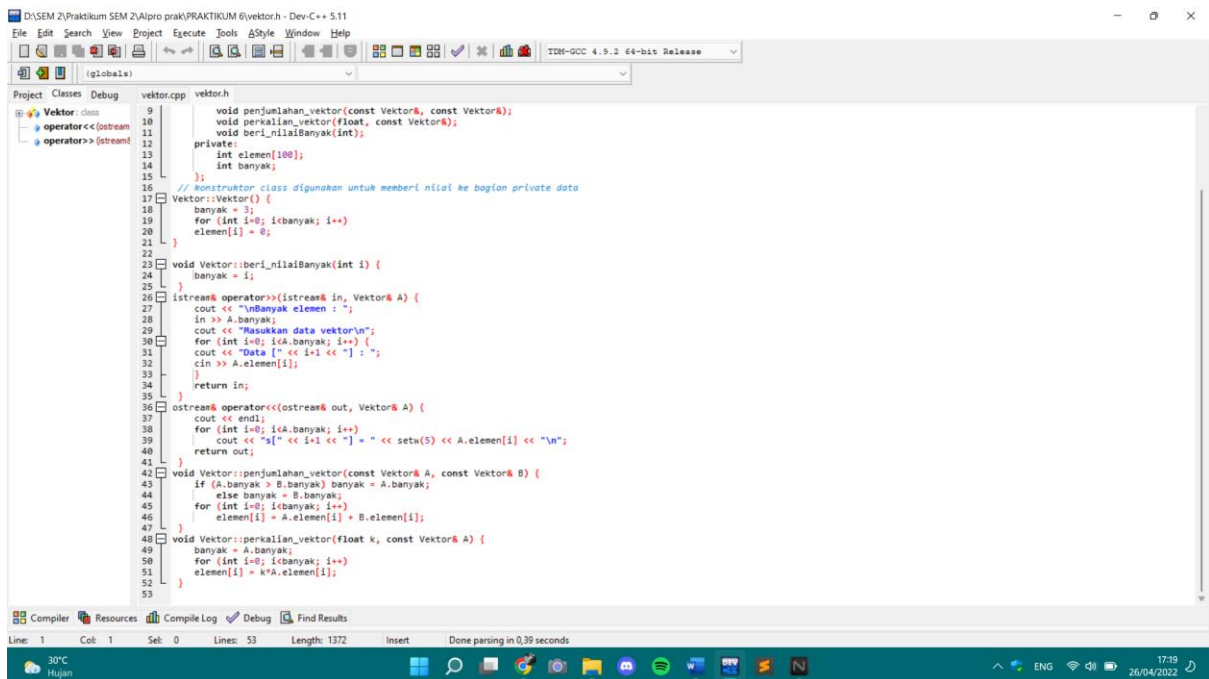
**PROGRAM STUDI INFORMATIKA
FAKULTAS TEKNOLOGI INDUSTRI
UNIVERSITAS AHMAD DAHLAN
APRIL 2022**

KEGIATAN 6

1. Class Vektor selengkapnya disajikan di bawah ini, namakan vektor.h.

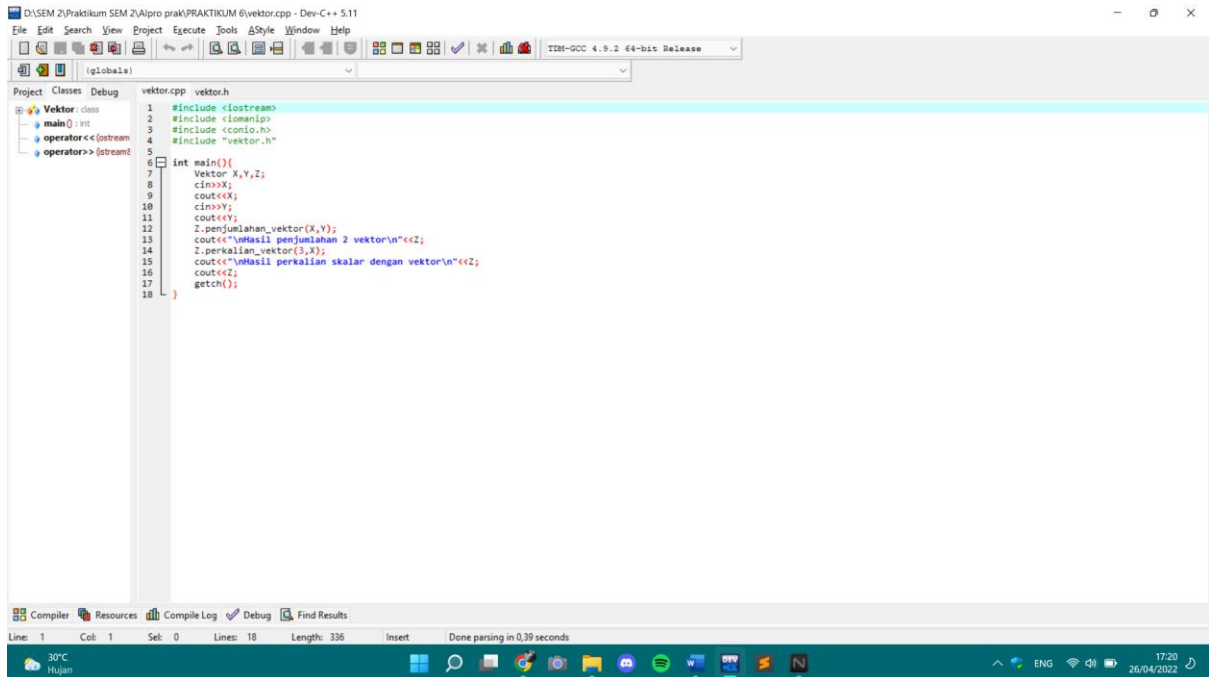


```
1 // vektor.h
2 #ifndef VEKTOR_H
3 #define VEKTOR_H
4
5 #include <iostream>
6
7 using namespace std;
8
9 class Vektor {
10     friend ostream& operator<<(ostream& out, Vektor& A);
11     friend istream& operator>>(istream& in, Vektor& A);
12
13 public:
14     Vektor();
15     void penjumlahan_vektor(const Vektor& A, const Vektor& B);
16     void perkalian_vektor(float k, const Vektor& A);
17     void beri_nilaiBanyak(int i);
18 private:
19     int elemen[100];
20     int banyak;
21
22     // konstruktor class digunakan untuk memberi nilai ke bagian private data
23     Vektor::Vektor() {
24         banyak = 3;
25         for (int i=0; i<banyak; i++)
26             elemen[i] = 0;
27     }
28
29     void Vektor::beri_nilaiBanyak(int i) {
30         banyak = i;
31     }
32
33     istream& operator>>(istream& in, Vektor& A) {
34         cout << "\nBanyak elemen : ";
35         in >> A.banyak;
36         cout << "Masukkan data vektor\n";
37         for (int i=0; i<A.banyak; i++) {
38             cout << "Data [" << i << " : ";
39             cin >> A.elemen[i];
40         }
41         return in;
42     }
43
44     ostream& operator<<(ostream& out, Vektor& A) {
45         cout << endl;
46         for (int i=0; i<A.banyak; i++)
47             cout << "s[" << i << " : " << setw(5) << A.elemen[i] << " \n";
48         return out;
49     }
50
51     void Vektor::penjumlahan_vektor(const Vektor& A, const Vektor& B) {
52         if (A.banyak > B.banyak) banyak = A.banyak;
53         else banyak = B.banyak;
54         for (int i=0; i<banyak; i++)
55             elemen[i] = A.elemen[i] + B.elemen[i];
56     }
57
58     void Vektor::perkalian_vektor(float k, const Vektor& A) {
59         banyak = A.banyak;
60         for (int i=0; i<banyak; i++)
61             elemen[i] = k*A.elemen[i];
62     }
63
64 #endif
```



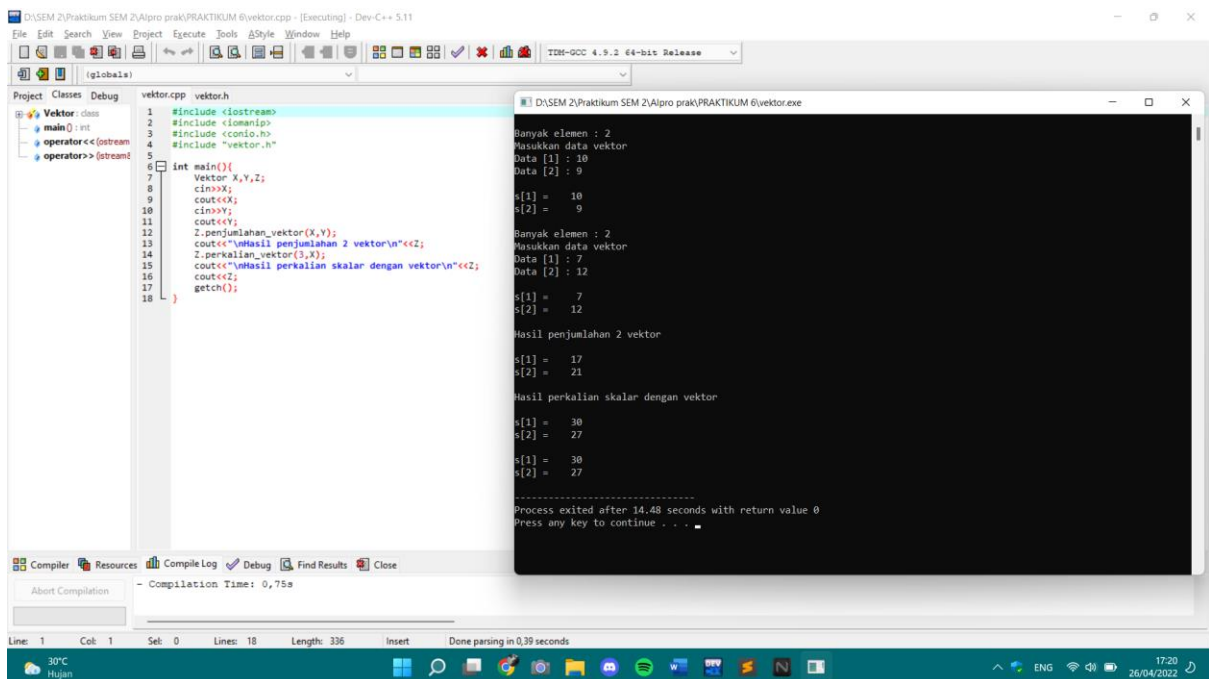
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52         if (A.banyak > B.banyak) banyak = A.banyak;
53         else banyak = B.banyak;
54         for (int i=0; i<banyak; i++)
55             elemen[i] = A.elemen[i] + B.elemen[i];
56     }
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58     void Vektor::perkalian_vektor(float k, const Vektor& A) {
59         banyak = A.banyak;
60         for (int i=0; i<banyak; i++)
61             elemen[i] = k*A.elemen[i];
62     }
63
64 #endif
```

2. Implementasi untuk menggunakan class Vektor di atas diberikan berikut ini, namakan Vektor.cpp.



```
1 #include <iostream>
2 #include <iomanip>
3 #include <conio.h>
4 #include "vektor.h"
5
6 int main(){
7     Vektor X,Y,Z;
8     cin>>X;
9     cout<<X;
10    cin>>Y;
11    cout<<Y;
12    Z.penjumlahan_vektor(X,Y);
13    cout<<"\nHasil penjumlahan 2 vektor\n"<<Z;
14    Z.perkalian_vektor(3,X);
15    cout<<"\nHasil perkalian skalar dengan vektor\n"<<Z;
16    cout<<Z;
17    getch();
18 }
```

- Menjalankan Program



```
Banyak elemen : 2
Masukkan data vektor
Data [1] : 10
Data [2] : 9

s[1] = 10
s[2] = 9

Banyak elemen : 2
Masukkan data vektor
Data [1] : 7
Data [2] : 12

s[1] = 7
s[2] = 12

Hasil penjumlahan 2 vektor

s[1] = 17
s[2] = 21

Hasil perkalian skalar dengan vektor

s[1] = 30
s[2] = 27

s[1] = 30
s[2] = 27

-----
Process exited after 14.48 seconds with return value 0
Press any key to continue . . .
```

Maka akan tampil hasil penjumlahan 2 vektor dan hasil perkalian skalar dengan vector.

STUDI KASUS

Dengan nama kelompok :

- Rifal febiyan
- Muhammad Faiz Akbar
- Arrijal Firmansyah

The screenshot displays a GitHub repository page for 'rifalfebiyan / rifal2100018345-prac-alpro'. The repository is public and has 1 watch, 1 fork, and 0 stars. The main branch is 'master'. The file 'studikasuk.cpp' is selected, showing 75 lines of C++ code. The code includes headers for `<iostream>` and `<string>`, uses the `std` namespace, and defines a `studikasuk` class with a `friend ostream operator<<` and a `friend istream operator>>`. The `input()` function prompts the user for data and then loops through an array to output names, task scores, and UTS scores.

Below the code, the commit history for 'Praktikum 6 / Studi Kasus / studikasuk.cpp' is shown, listing three commits from April 27, 2022:

- Update studikasuk.cpp by FaizAkbar26, committed 1 minute ago (commit c22f72f).
- Update studikasuk.cpp by ArrijalFirmansyah, committed 4 hours ago (commit 18c8997).
- update praktikum 6 by rifalfebiyan, committed 4 hours ago (commit 2e0b004).

The footer of the page shows the GitHub logo, copyright notice for 2022, and links to Terms, Privacy, Security, Status, Docs, Contact GitHub, Pricing, API, Training, Blog, and About.

Link repository : <https://github.com/rifalfebiyan/rifal2100018345-prac-alpro/blob/master/Praktikum%206/Studi%20Kasus/studikasuk.cpp>