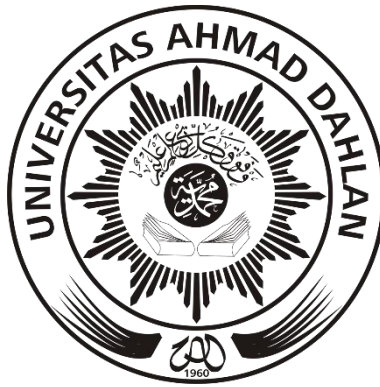


LAPORAN
ALGORITMA PEMORGRAMAN

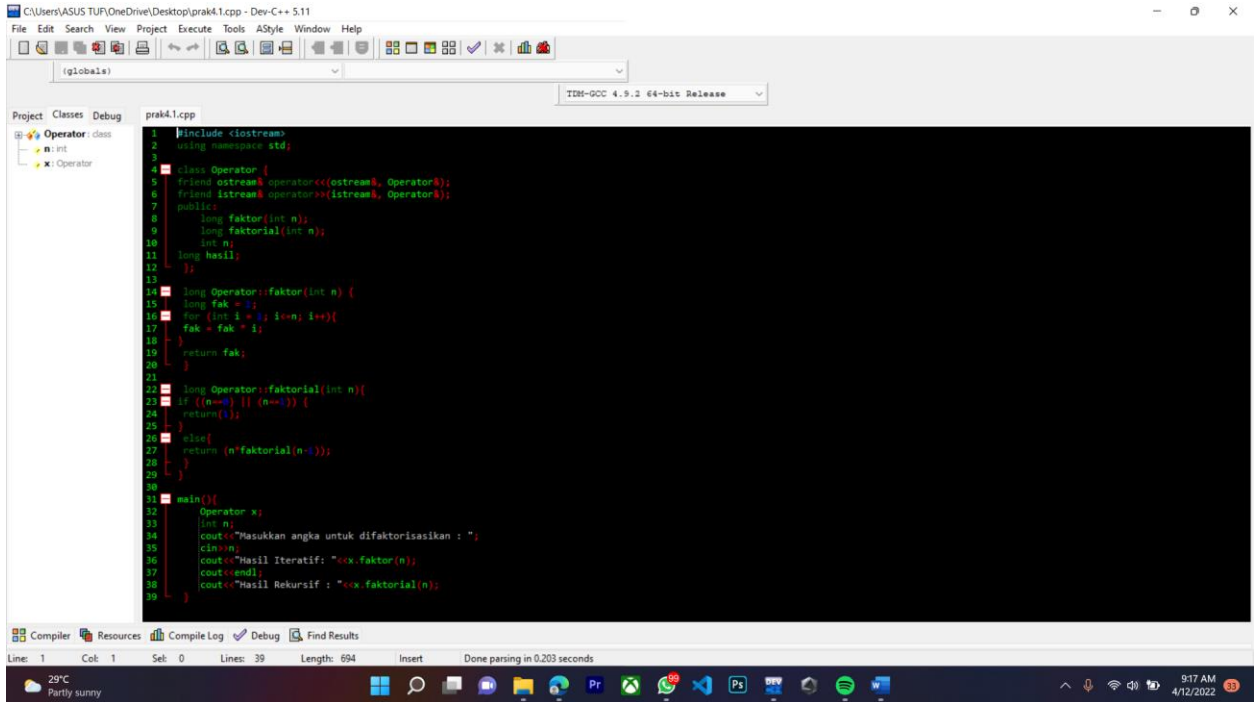


DISUSUN OLEH
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SLOT SELASA 13.30 – KELAS G

PROGRAM STUDI INFORMATIKA FAKULTAS
TEKNOLOGI INDUSTRI
UNIVERSITAS AHMAD DAHLAN
TAHUN AJARAN 2021/2022

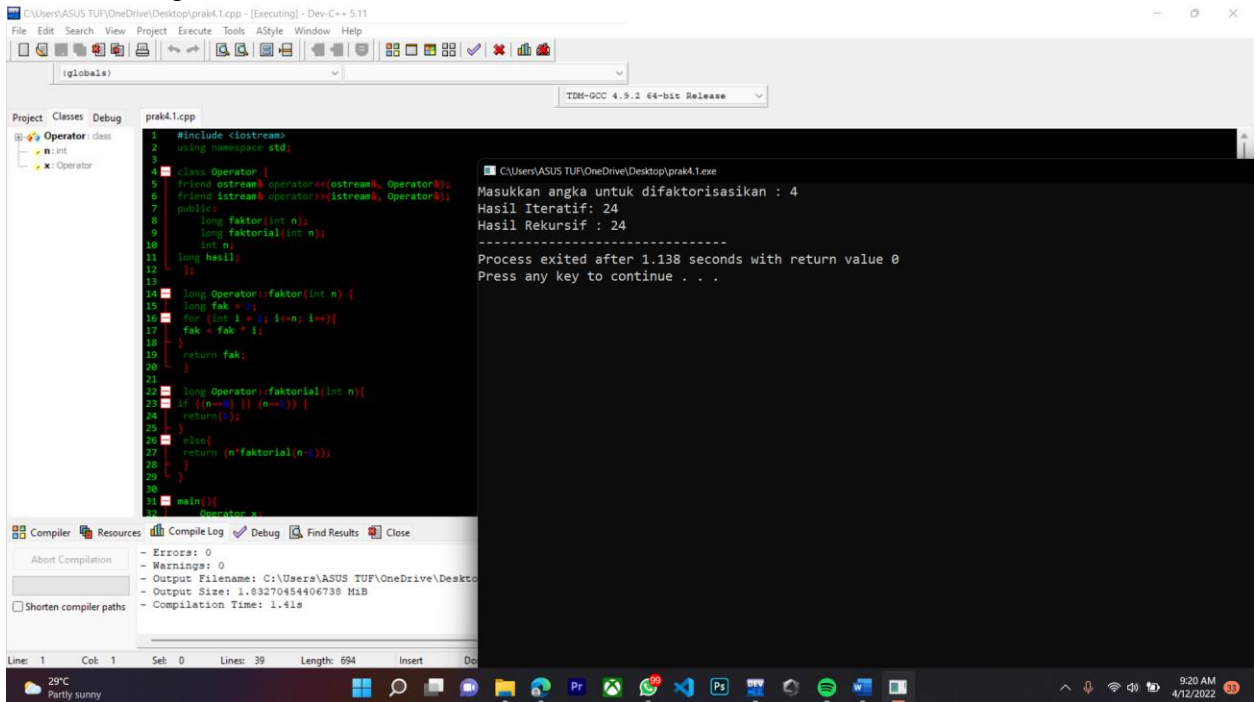
KEGIATAN 4 : PERULANGAN (ITERATIF-REKURSIF)

1. Ketiklah Program dibawah ini!



```
1 #include <iostream>
2 using namespace std;
3
4 class Operator {
5     friend ostream& operator<<(ostream&, Operator&);
6     friend istream& operator>>(istream&, Operator&);
7 public:
8     long faktor(int n);
9     long faktorial(int n);
10    int n;
11    long hasil;
12};
13
14 long Operator::faktor(int n) {
15    long fak = 1;
16    for (int i = 1; i <= n; i++) {
17        fak = fak * i;
18    }
19    return fak;
20}
21
22 long Operator::faktorial(int n) {
23    if ((n==0) || (n==1)) {
24        return 1;
25    }
26    else {
27        return (n*faktorial(n-1));
28    }
29}
30
31 main() {
32    Operator x;
33    int n;
34    cout<<"Masukkan angka untuk difaktorisasikan : ";
35    cin>>n;
36    cout<<"Hasil Iteratif: "<<x.faktor(n);
37    cout<<endl;
38    cout<<"Hasil Rekursif : "<<x.faktorial(n);
39}
```

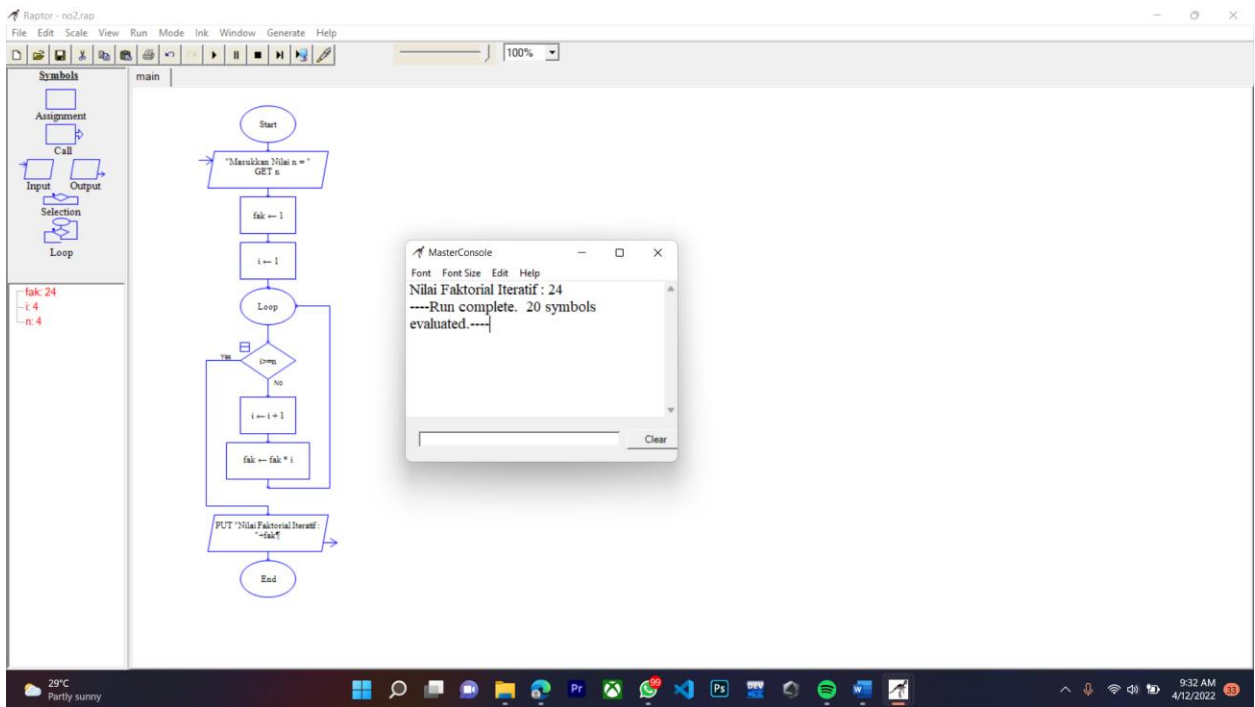
Jalankan Program



```
C:\Users\ASUS TUF\OneDrive\Desktop\prak4.1.exe
Masukkan angka untuk difaktorisasikan : 4
Hasil Iteratif: 24
Hasil Rekursif : 24
-----
Process exited after 1.138 seconds with return value 0
Press any key to continue . . .
```

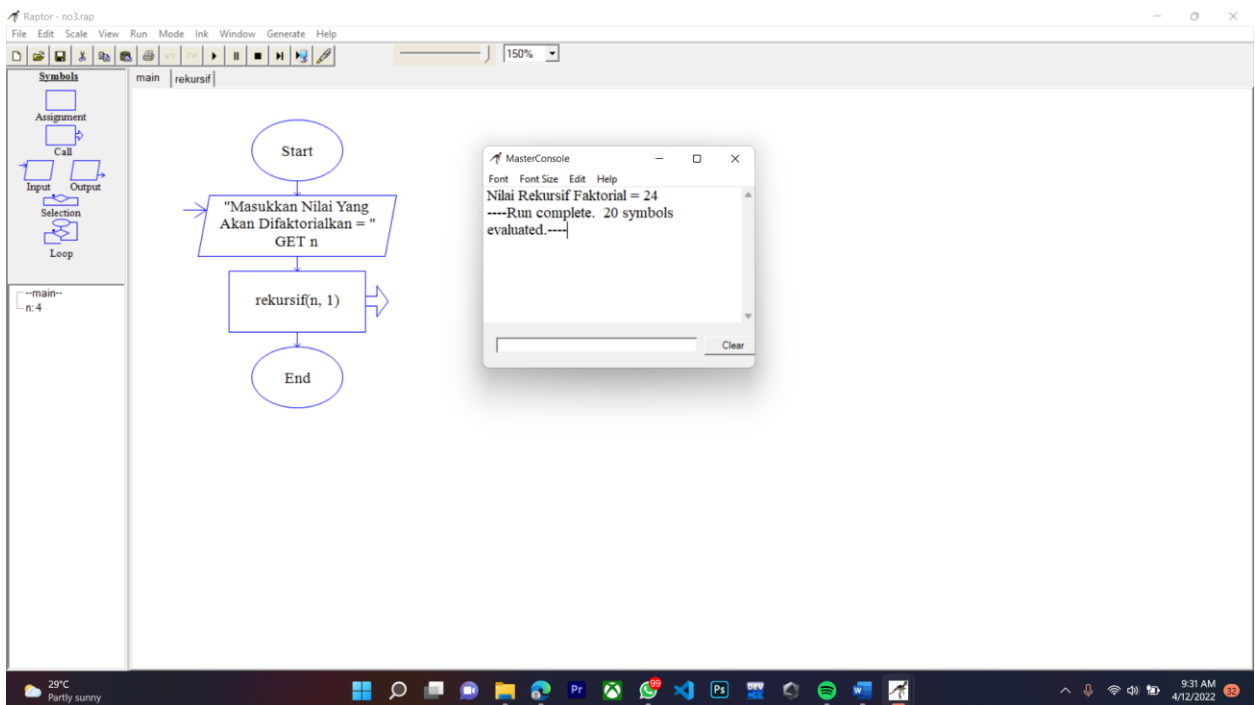
Compiler: 0
Warnings: 0
Output Filename: C:\Users\ASUS TUF\OneDrive\Desktop\prak4.1.exe
Output Size: 1,832,704,640,6738 MiB
Compilation Time: 1.41s

2. Untuk menelusuri program di atas buatlah raptor dari baris 12 sampai baris 17 amati nilai variabel fak dan i

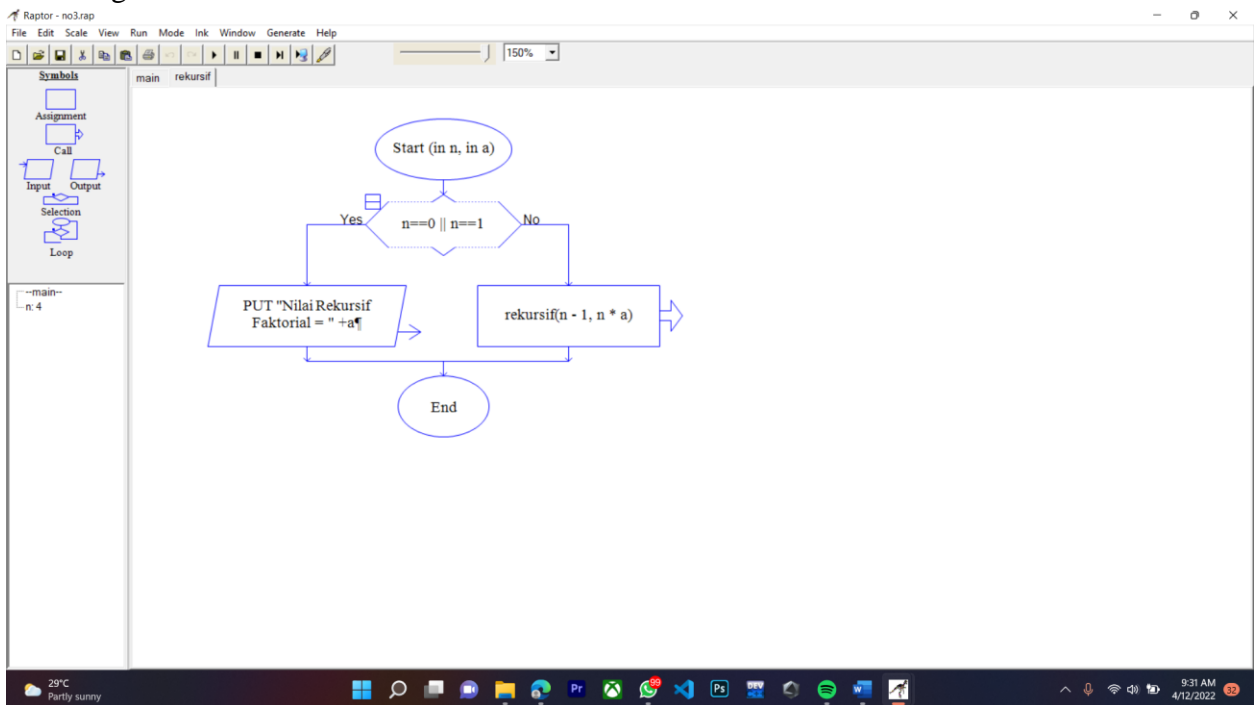


Faktorisasi Flowchart Secara Iteratif

3. Buatlah raptor dari baris 19 sampai baris 22 jalankan raptor dan amati perubahan dari nilai variabel n



Sub-Program



Faktorisasi Flowchart Secara Rekursif

Screenshot Studi Kasus 4 dan Link Repositornya:

The screenshot shows a GitHub repository page for 'rifal2100018345-prac-alpro'. The file 'Praktikum 4 / STUDI KASUS / STUDI KASUS 4.cpp' is open, showing C++ code for a 'Pemasukan' class. The code includes headers for iostream, iomanip, and math, and uses the std namespace. The class has a public section with methods: print(), akumulasi(), and hitungrata_rata(). The print() method prints the number of income entries and the total income. The akumulasi() method calculates the total income. The hitungrata_rata() method calculates the average income. The main function calls these methods for a sample dataset.

```
1 #include<iostream>
2 #include<iomanip>
3 #include<math.h>
4
5 using namespace std;
6
7 class Pemasukan{
8     public:
9         int pemasukan=0;
10        void print();
11        int akumulasi(int a, int pendapatan);
12    };
13
14
15 int Pemasukan::akumulasi(int a, int pendapatan){
16     int a;
17     int k;
18     int hasil;
19
20     if(a > 0, a <= 5){
21         cout<<"t\t";
22         cin >> a;
23         cout << "t\tt\tt\t";
24         cin >> x;
25         hasil = pendapatan+a*x;
26         cout << " | " << a << " | " << "t\t" << " | " << "t\t" << " | " << "t\t" << endl;
27         cout << " " << "t\t";
28         return akumulasi(a+1, pendapatan+a*x);
29     }
30 }
31
32 void Pemasukan::print(){
33     int jumlahPemasukan;
```

LINK: [rifal2100018345-prac-alpro/STUDI KASUS 4.cpp at master · rifalfebiyan/rifal2100018345-prac-alpro \(github.com\)](https://github.com/rifal2100018345-prac-alpro/STUDI_KASUS_4.cpp)