LAPORAN

ALGORITMA PEMORGRAMAN

DISUSUN OLEH

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SLOT SELASA 13.30 – KELAS G

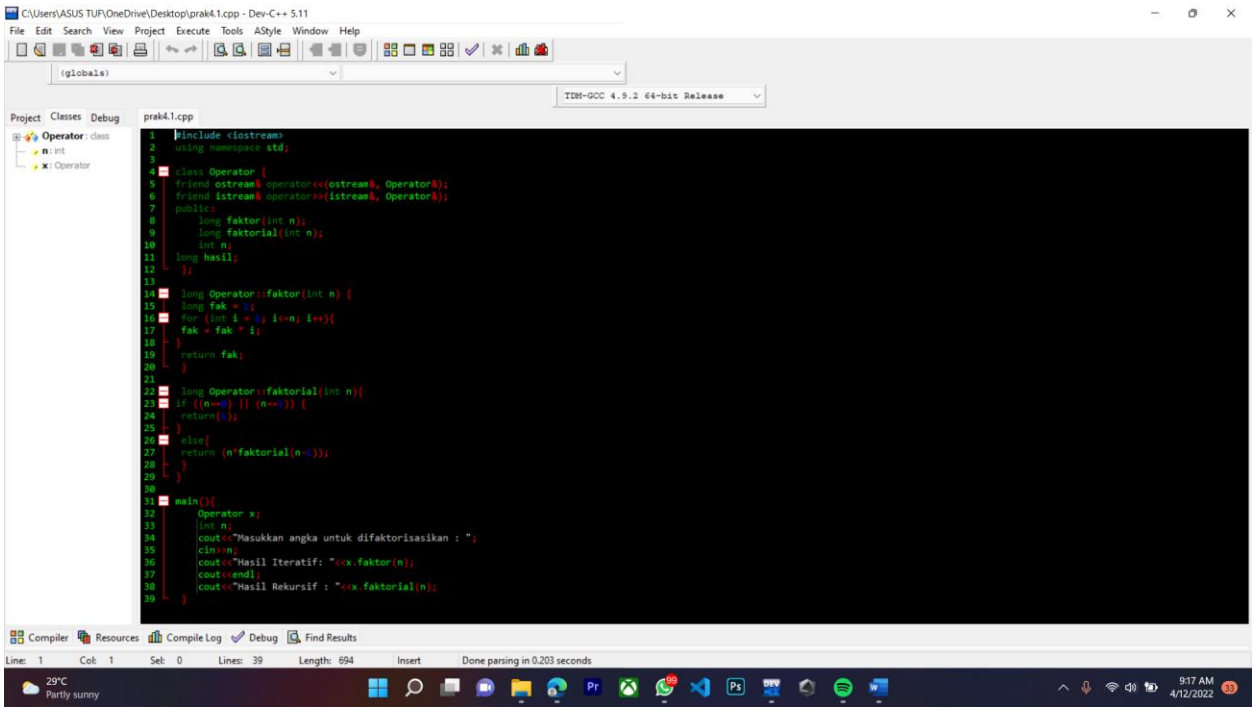
PROGRAM STUDI INFORMATIKA FAKULTAS TEKNOLOGI INDUSTRI

UNIVERSITAS AHMAD DAHLAN

TAHUN AJARAN 2021/2022

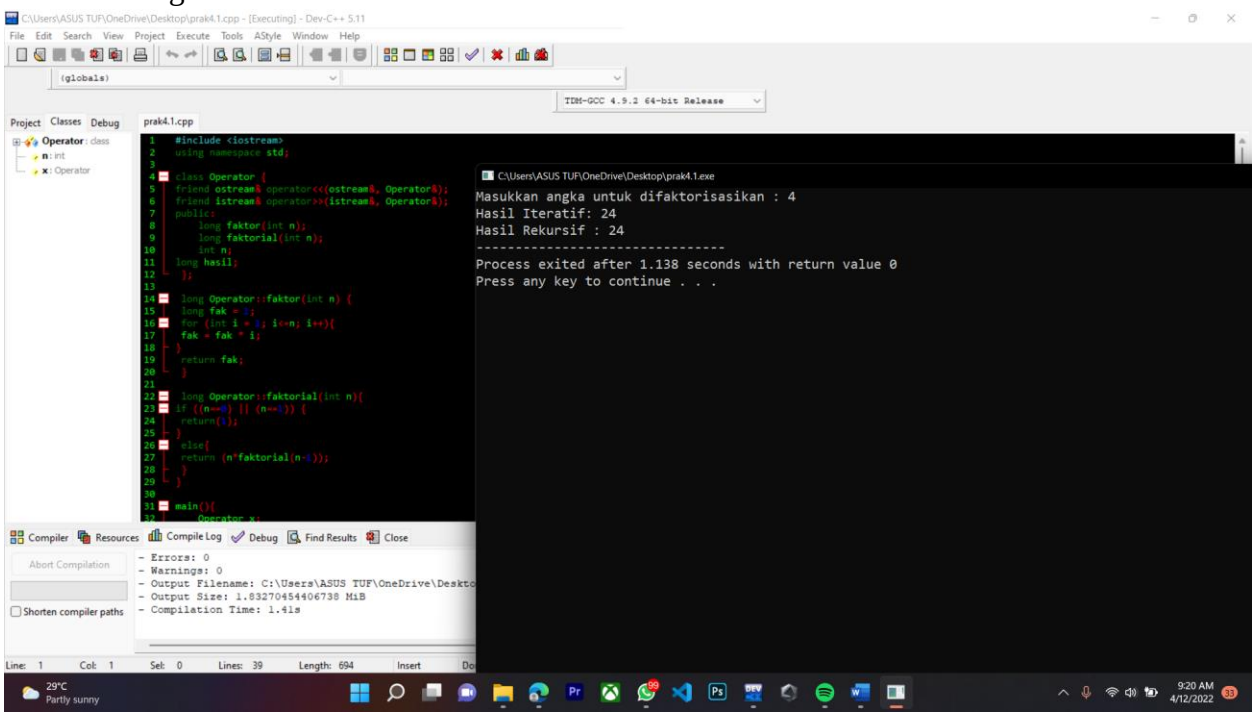
KEGIATAN 4 : PERULANGAN (ITERATIF-REKURSIF)

1. Ketiklah Program dibawah ini!



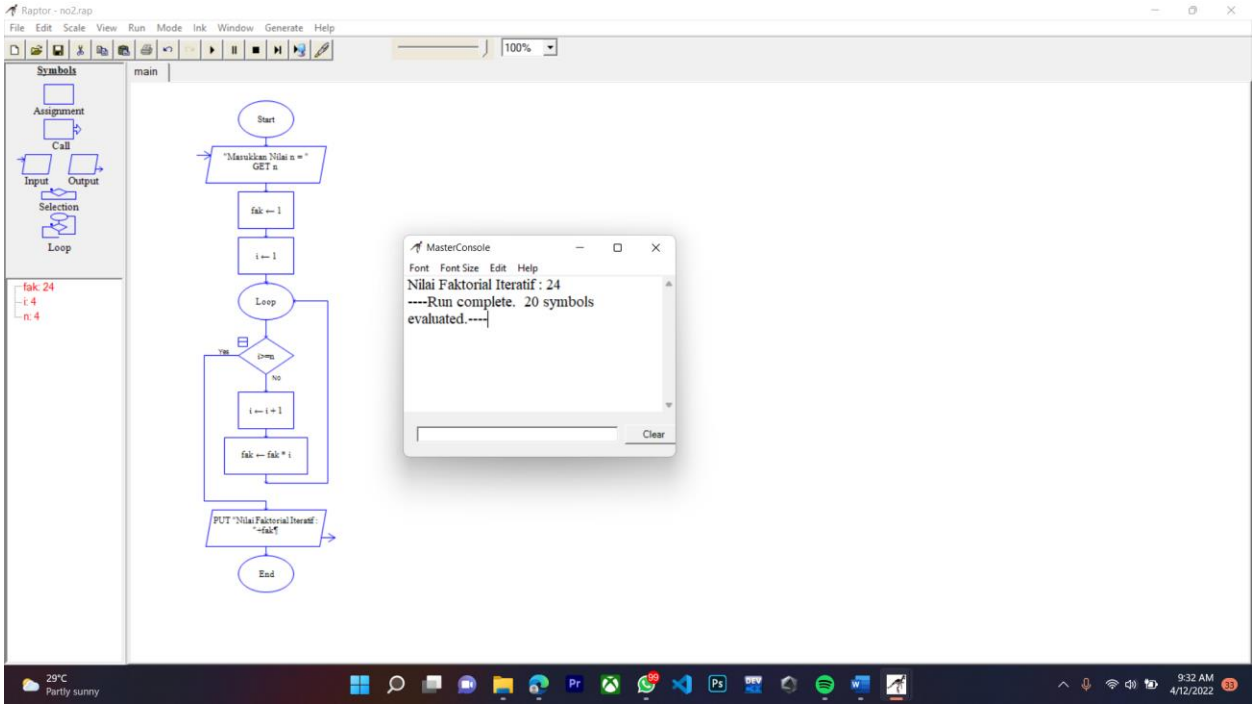
```
#include <iostream>
using namespace std;

class Operator {
friend ostream& operator<<(ostream&, Operator&);
friend istream& operator>>(istream&, Operator&);
public:
    long faktor(int n);
    long faktorial(int n);
    int n;
long hasil;
};

long Operator::faktor(int n) {
long fak = 1;
for (int i = 1; i<=n; i++){
fak = fak * i;
}
return fak;
}

long Operator::faktorial(int n){
if ((n==0) || (n==1)) {
return(1);
}
else{
return (n*faktorial(n-1));
}
}

main(){
    Operator x;
    int n;
    cout<<"Masukkan angka untuk difaktorisasikan : ";
    cin>>n;
    cout<<"Hasil Iteratif: "<<x.faktor(n);
    cout<<endl;
    cout<<"Hasil Rekursif : "<<x.faktorial(n);
}
```

Jalankan Program



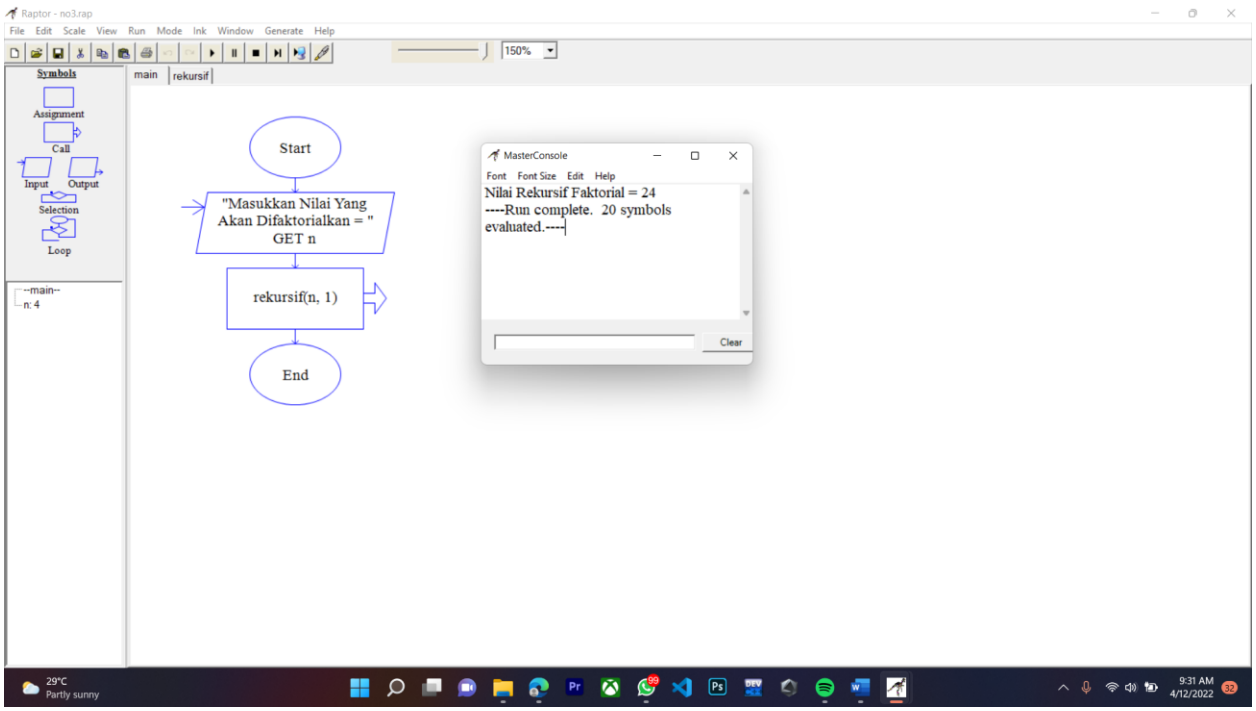
```
Masukkan angka untuk difaktorisasikan : 4
Hasil Iteratif: 24
Hasil Rekursif : 24
--------------------------------
Process exited after 1.138 seconds with return value 0
Press any key to continue . . .
```

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

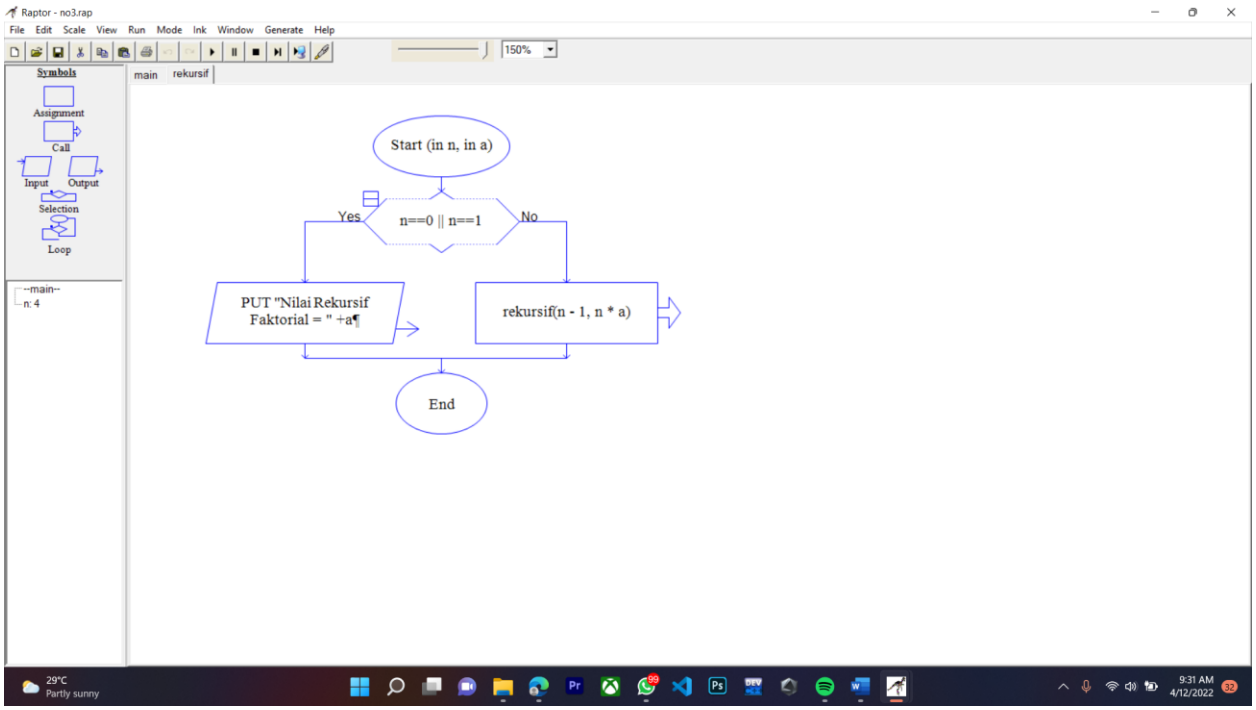


Faktorisasi Flowchart Secara Iteratif

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

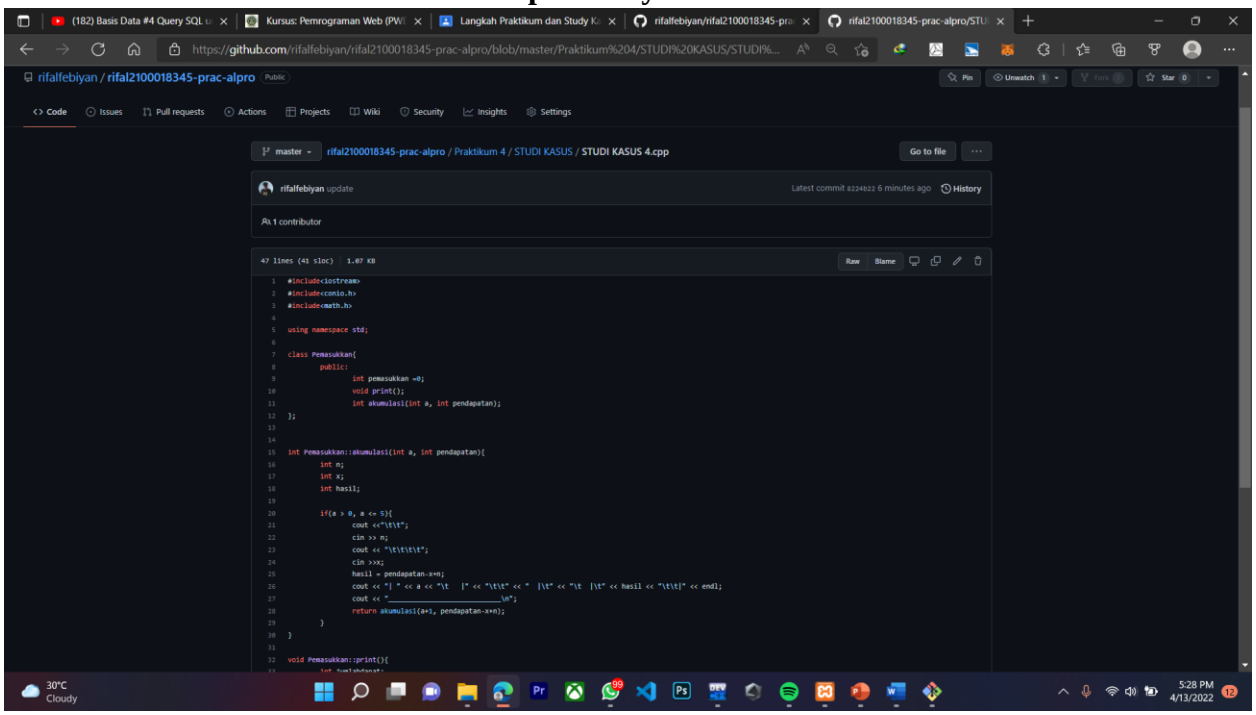


Sub-Program



Faktorisasi Flowchart Secara Rekursif

Screenshot Studi Kasus 4 dan Link Repositornya:



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