TUGAS KELAS WEEK 5

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1. Membuat flowgraph dan mencari CC

2. Mengidentifikasi independent path

3. Mencari Statement Coverage, Branch Coverage, dan Path Coverage

4. Mendefinisikan test casenya

➢ Code:

```cpp
int main() {
    string ulang = "Y";
    while(ulang == "y" || ulang == "Y"){
    int batas;
    cout<<"berapa nomor telepon yang ingin anda simpan? ";
    cin>>batas;
    string noHp[batas];
    int start = 0;
    while (start < batas) {
        cout << "Anda dapat memasukkan nomor ke "<<start+1<<" : ";
        cin>>noHp[start];
        start++;
    }
    cout<<"=======Input Nomor selesai======="<<endl;
    cout<<"berikut Datanya : "<<endl;
    int show =0;
    while (show<batas){
        cout<<"nomor hp ke "<<show+1<<" : "<<noHp[show]<<endl;
        show++;
    }
    cout<<"apakah ingin mengulang (y for loop) : ";
    cin>>ulang;
    }

    return 0;
}
```
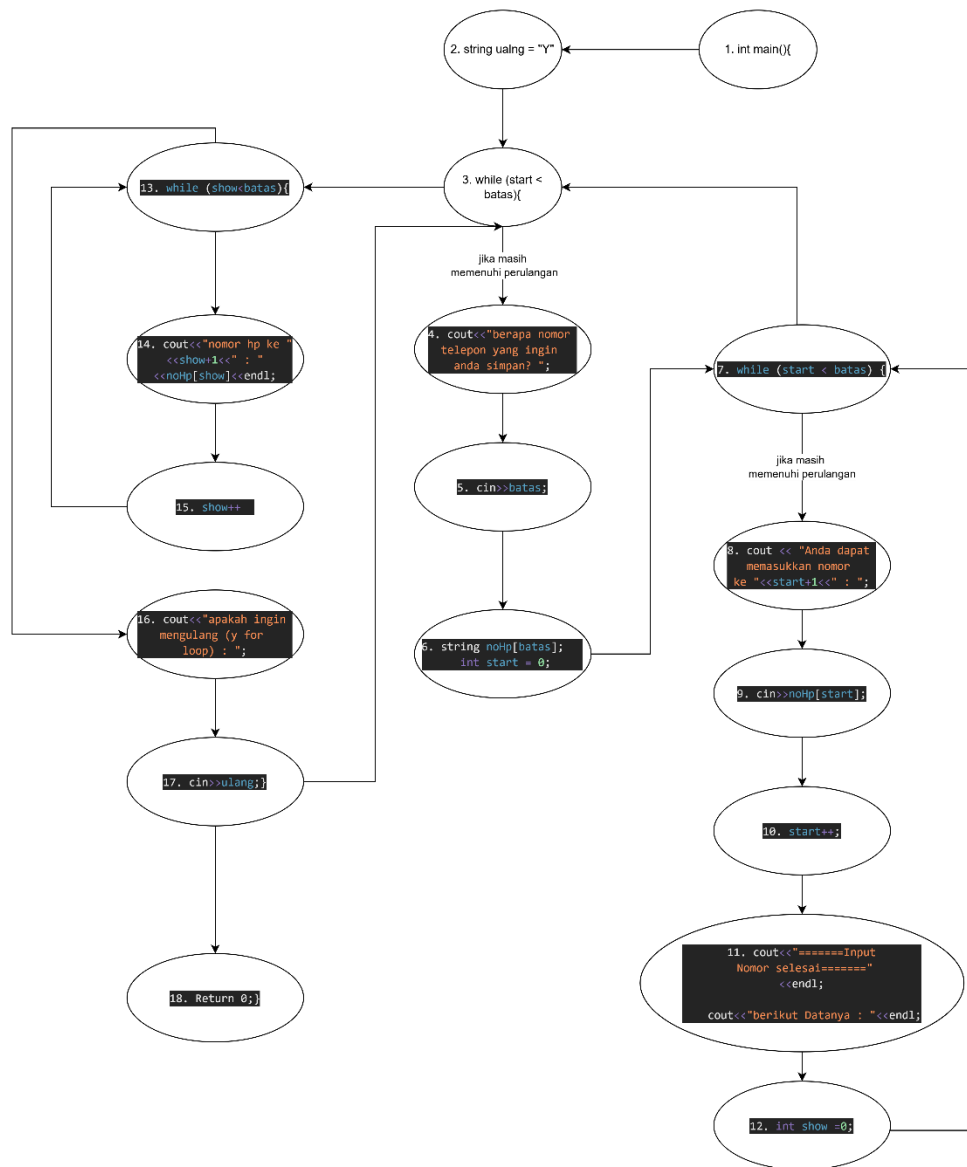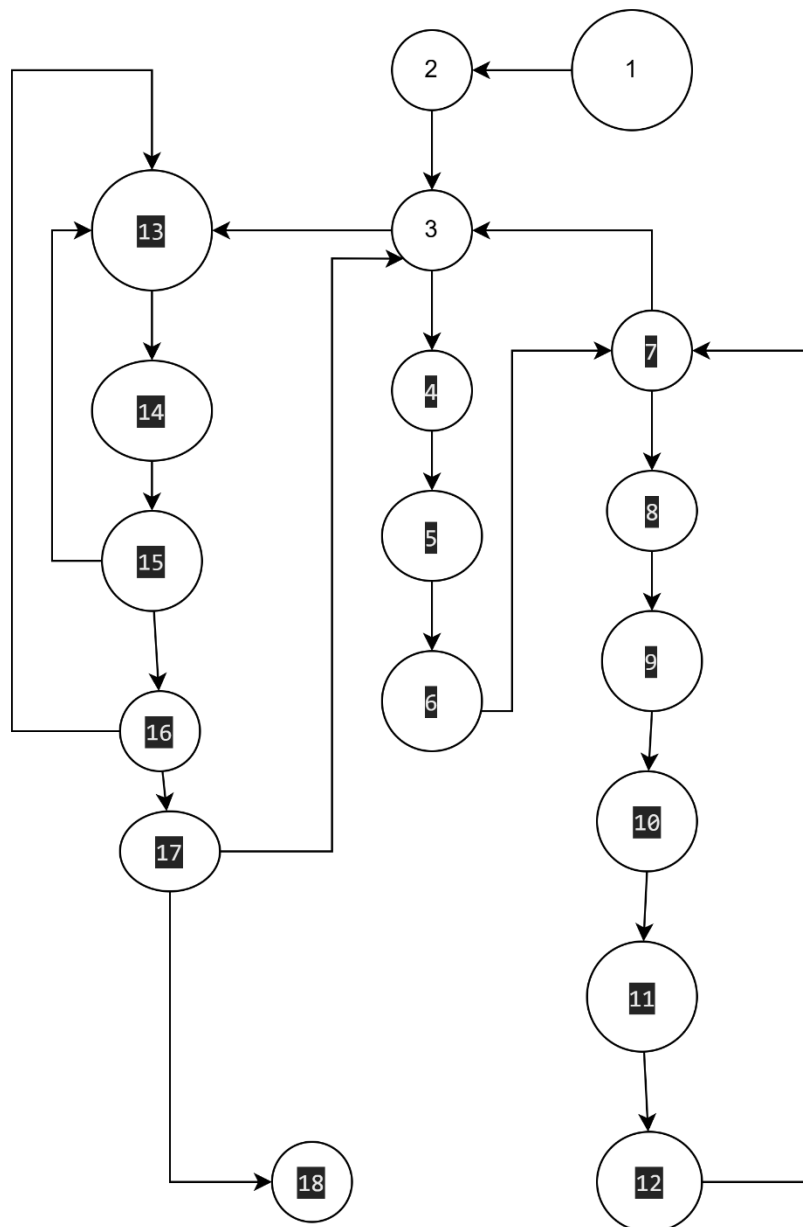
➢ FLOWGRAPH

- Flowgraph code:

- Flowgraph dipersimple:

-

➢ Cyclomatic Coimplexity (CC)
Rumus CC = E – N + 2

E = 22
N = 18

CC   = E   – N   + 2
        = 22   – 18   +2
        = 6

Maka Cycomatic Complexity nya adalah 6

➢ Mengidentifikasi Independent Path

1. 1-2-3-13-16-17-18
2. 1-2-3-4-5-6-7-3-13-16-17-18
3. 1-2-3-4-5-6-7-8-9-10-11-12-7-3-13-14-15-16-17-18
4. 1-2-3-4-5-6-7-8-9-10-11-12-7-3-13-14-15-16-17-3-4-5-6-7-3-13-16-17-18
5. 1-2-3-4-5-6-7-8-9-10-11-12-7-3-13-14-15-16-17-3-4-5-6-7-8-9-10-11-12-7-3-13-14-15-16-17-18
6. 1-2-3-4-5-6-7-8-9-10-11-12-7-3-13-14-15-13-16-17-18

Total ada 4 Independent Path

➢ Statement Coverage, Branch Coverage, Path Coverage
- Statement Coverage

```cpp
int main() {
    string ulang = "Y";                          // Statement 1
    while(ulang == "y" || ulang == "Y"){         // Statement 2
        int batas;                               // Statement 3
        cout<<"berapa nomor telepon yang ingin anda simpan? ";  // Statement 4
        cin>>batas;                              // Statement 5
        string noHp[batas];                      // Statement 6
        int start = 0;                           // Statement 7
        while (start < batas) {                  // Statement 8
            cout << "Anda dapat memasukkan nomor ke "<<start+1<<" : ";  // Statement 9
            cin>>noHp[start];                    // Statement 10
            start++;                             // Statement 11
        }
        cout<<"=======Input Nomor selesai======="<<endl;   // Statement 12
        cout<<"berikut Datanya : "<<endl;        // Statement 13
        int show =0;                             // Statement 14
        while (show<batas){                      // Statement 15
            cout<<"nomor hp ke "<<show+1<<" : "<<noHp[show]<<endl;  // Statement 16
            show++;                              // Statement 17
        }
        cout<<"apakah ingin mengulang (y for loop) : ";    // Statement 18
        cin>>ulang;                              // Statement 19
    }

    return 0;       // Statement 20
}
```

Jika input pertama 3 lalu 1 lalu 2 lalu 3 lalu n

Statement Coverage = (Pernyataan yang dieksekusi /Total Pernyataan) x 100%
                        = (20/20) x 100%

- **Branch Coverage**
    Tidak ada if else jadi saya tidak bisa mengukurnya
- **Path Coverage**
    Untuk melalui semua cukup:
    1. 1->1->n
    2. 1->1->y->1->1->1->n
    3. 0->0
    4. 0->y->1->1->n
    5. 0->y->1->1->y->1->1->n
    6. 0->y->0->n

➢ Test Case

Test Case ID	**TC001**	Test Case Description	Menguji Looping dari fungsi LoopWhile()		
Created By	Evi	Reviewed By		Version	1

QA Tester's Log	

Tester's Name	Evi		Date Tested	25/03/2025

S #	Prerequisites
1	none
2	
3	
4	

S #	Test Data
1	1 (Int)
2	1 (Int)
3	1 (Int)
4	1 (Int)

Test Scenario	Normal Flow

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Not Executed/Suspended
1	Aplikasi Berjalan	Memunculkan Console UI	as expected	Pass
2	Menginputkan int 1	Memasuki input nomor telepon pertama	as expected	Pass
3	Menginputkan int 1	Menyimpan nomor telepon pertama	as expected	Pass
4	Menginputkan int 1	Menyelesaikan Aplikasi	as expected	Pass
5				

Test Scenario	Alternate

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Not Executed/Suspended
1	Aplikasi Berjalan	Memunculkan Console UI	as expected	Pass
2	Menginputkan int 0	Memasuki input nomor telepon pertama	as expected	Pass
3	Menginputkan int 1	Menyelesaikan Aplikasi	as expected	Pass
4				