TUGAS KELAS WEEK 5

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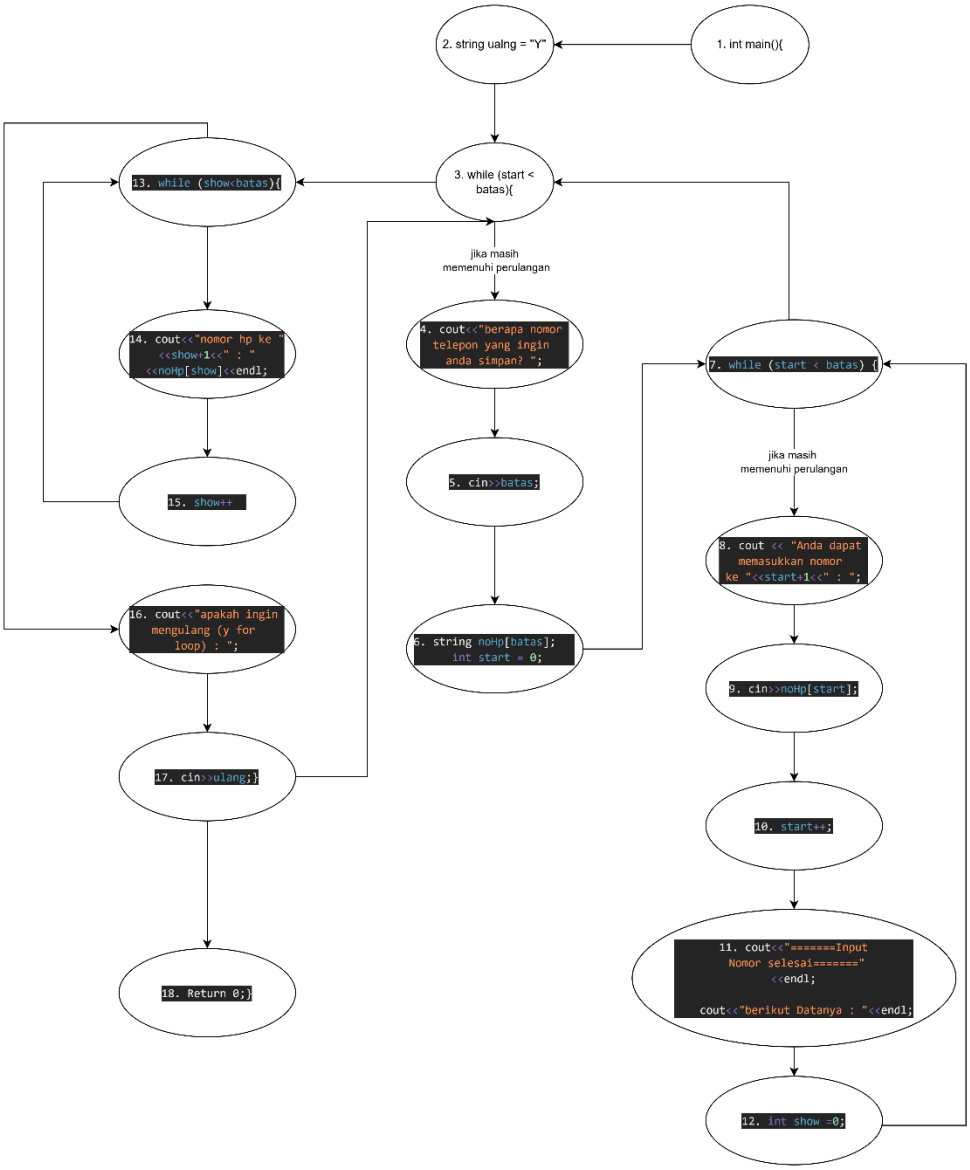
1. Membuat flowgraph dan mencari CC
2. Mengidentifikasi independent path
3. Mencari Statement Coverage, Branch Coverage, dan Path Coverage
4. Mendefinisikan test casenya

- Code:

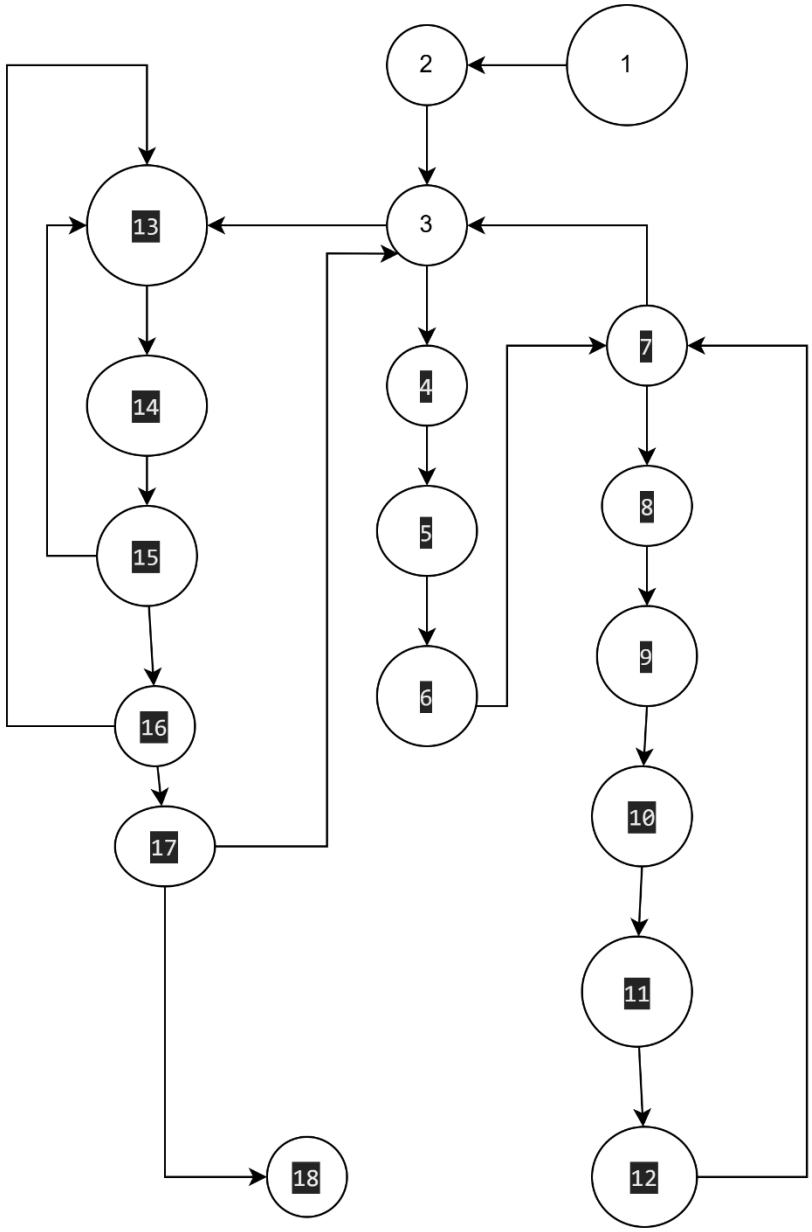
```
int main() {
    string ulang = "Y";
    while(ulang == "y" || ulang == "Y"){
    int batas;
    cout<<"berapa nomor telepon yang ingin anda simpan? ";
    cin>>batas;
    string noHp[batas];
    int start = 0;
    while (start < batas) {
        cout << "Anda dapat memasukkan nomor ke "<<start+1<<" : ";
        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:



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➢ 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

```
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