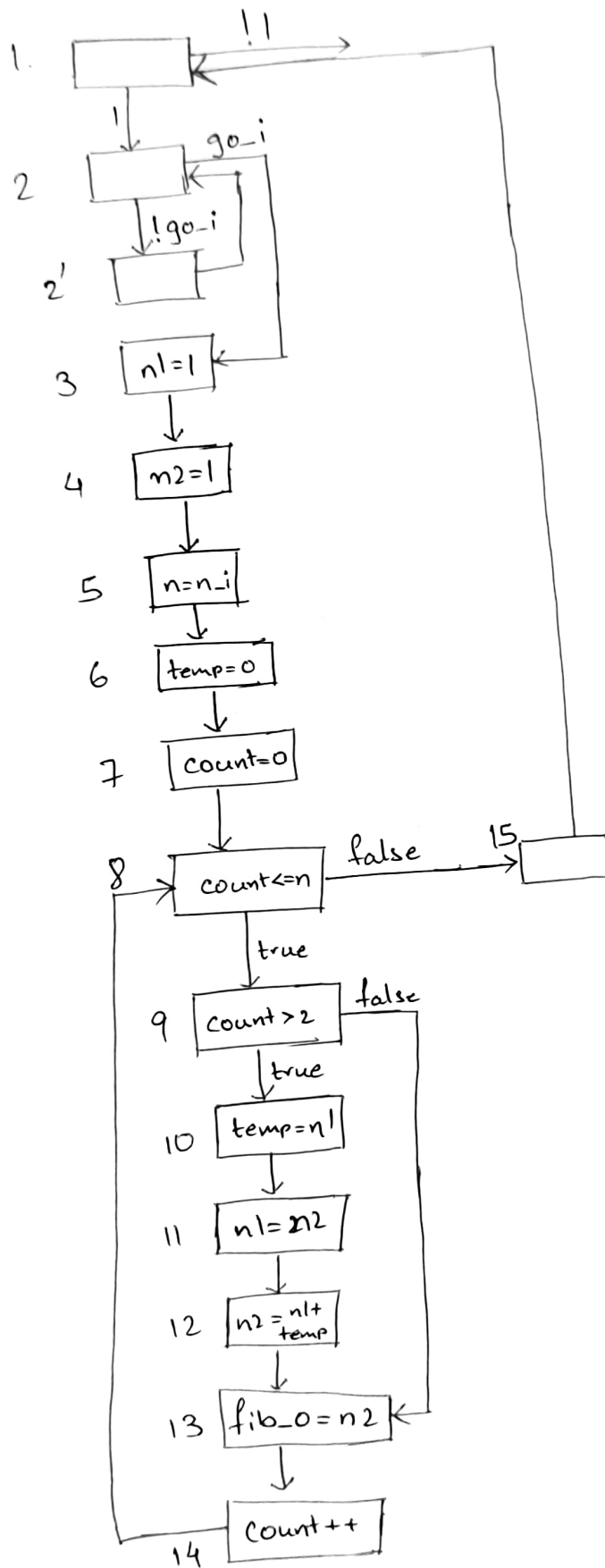- Algorithm.

```
int n1, n2, temp, count, n;
while (1) {
    while (!go);
    n1 = 1;
    n2 = 1;
    n = n_i;
    count = 0;
    temp = 0;
    while (count <= n) {
        if (count > 2) {
            temp = n1;
            n1 = n2;
            n2 = n1 + temp;
        }
        fib_0 = n2;
        count++;
    }
}.
```

- State diagram.

1. [ ] ← !1

1 ↓

2. [ ] ← go_i

!go_i ↓

2'. [ ]

3. [n1=1]

4. [n2=1]

5. [n=n_i]

6. [temp=0]

7. [count=0]

8. → [count<=n] —false→ 15. [ ]

true ↓

9. [count>2] —false→

true ↓

10. [temp=n1]

11. [n1=n2]

12. [n2 = $\frac{n1+}{temp}$]

13. [fib_0=n2] ←

14. [count++]

- Datapath.