Loop → iteration → Repeat

Grana → loop (1) (2) → 2 repeat

1 – 100 → 1. — 100

Loop

- for loop — Syntax
- while loop — Syntax

for loop

```
for( Initia ; condi ; iteration )
      (1)       (2)      (3)
{
   // loop statement
}
```

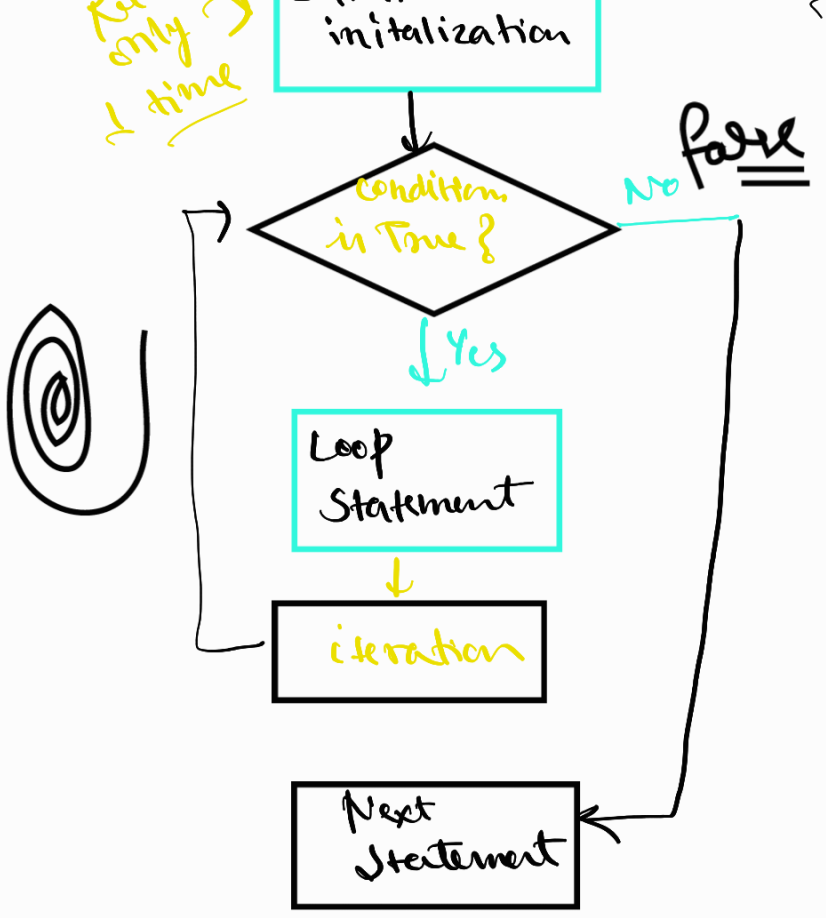
Expression
1. Initialization
2. Conditional exp.
3. Iteration Ste

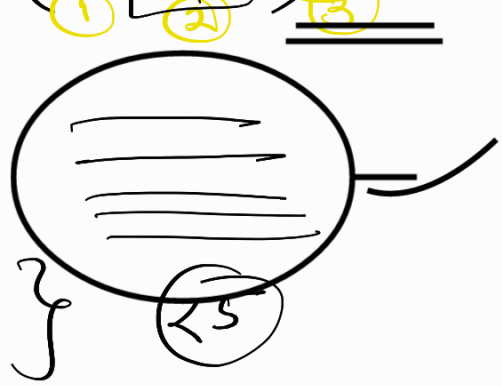
Loop stop ← (2)

< > <=

Evaluate

for (— —)





0 to 10

Variable counter

True

```
for (int i{}; i<10 ; i++ )
{
    cout << i <<endl;
}
```

10.

i = 0.
i<10
i++ i = 1
i=1<10

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

i=10 → i++ → 11 → 11 ≮ 10

---

for(; ;)

for(; ;)

for(;;)

5

1+2+3+4+5

3 6 10 15

$\frac{n(n+1)}{2}$

$\frac{5\times6}{2} = 15$

1-5 → 15

$n\times(n+1)/2$

for loop

1+2+3+4+5

1 —— 5

1+2 = 3 → sum

4 + sum = sum = 5

5

5 10

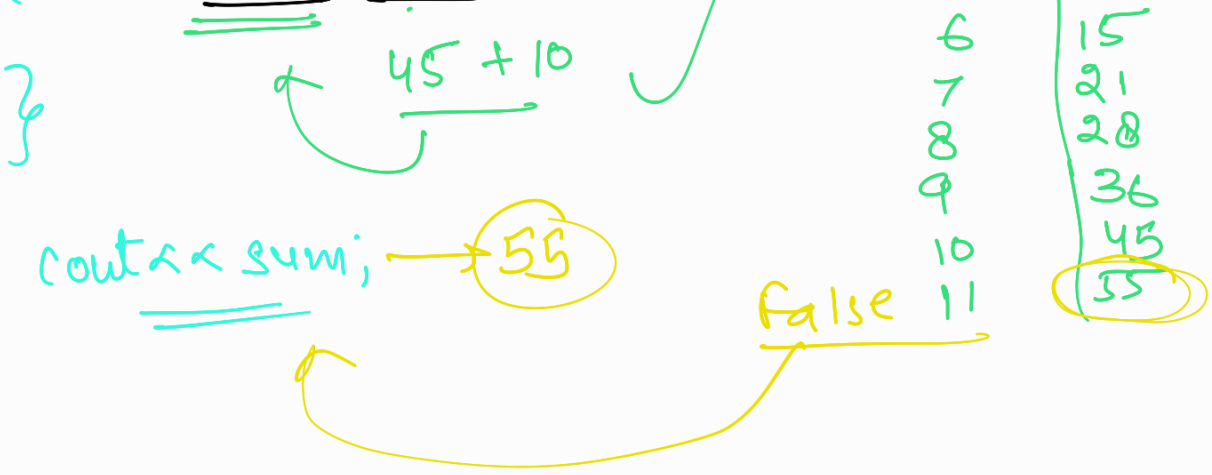
Sum = 10

int sum{};

for(int i{1}; i<=10; i++)

{ sum = sum + i;

i<10	sum
1	0
2	1
3	3
4	6
5	10



$n = 10$

$$\frac{n(n+1)}{2} = \frac{10 \times 11}{2}$$

$$\Rightarrow \frac{110}{2} = 55$$