(i) for - How many times we have to execute the statements. 10, 20 ... .

(ii) while - If count is not defined, on the basis of condition this loop works.

(iii) do-while - Atleast statement will be executed once without checking any condition.

(i) for Syntax :-

Keyword

for (init ; condition ; inc/dec) {

// Statements ✓

}

times

(ii) while Syntax :

```
init ;
                          true
                           ↑
while ( condition ) {

        // Statements

        inc/dec ;
}
```

(iii) do-while :-

```
          init;
do {

       // Statement

    inc/dec/

} while (cond);
              ↓
         true/false
```

for (init ; cond ; inc |dec) { → loop.

}

$$\text{for} \begin{cases} JAVA \\ \\ Syso ("JAVA"); \end{cases} \begin{array}{c} \underline{10} = 6 \\ \underline{500} \end{array}$$

eg.   for (int i = 1 ; i < = 50 ; i++)

{

   Sout (" Hello ");   → 50

}

```java
for ( int i = 1 ; i <= 50 ; i++ ) {
①              ②    ⑤    ④    ⑦

③ ⑥ {  System.out.println ('A') ;

}
```

Or

```java
int i ;
for ( i = 1 ; i <= 50 ; i++ )
{
   // System
}
```

```java
int i = 0 ;
for ( i = 1 ; i <= 50 ; i++ )
{
   // System .
}
```

for (int i=1 ; i<=10 ; i++) ⟶ **Stop**
ⓘ   1K=10 ⟶ false
{   1<=10 ; i=2
                     2<=10
    System.out.println("Hello");

}

Itr1 ⟶ i=1
         1<=10 ⟶ true
              ↳
         Hello
         i = 2

Itr2 i=2
         2<=10 ⟶ true
              Hello
         i=3

Itr3 i = 3
         3<=10 ⟶ true
              Hello
         11<=10 ⟶ false
         ↳ execution - stop.

Itr10 i=10
         10<=10 ⟶ true
              Hello
         i=11

Itr11 i=11

user value $\rightarrow$ 100 values $\rightarrow$ Sum

$\downarrow$

Scanner class

$\downarrow$

Loop

nextInt ( );

$\downarrow$

Sum
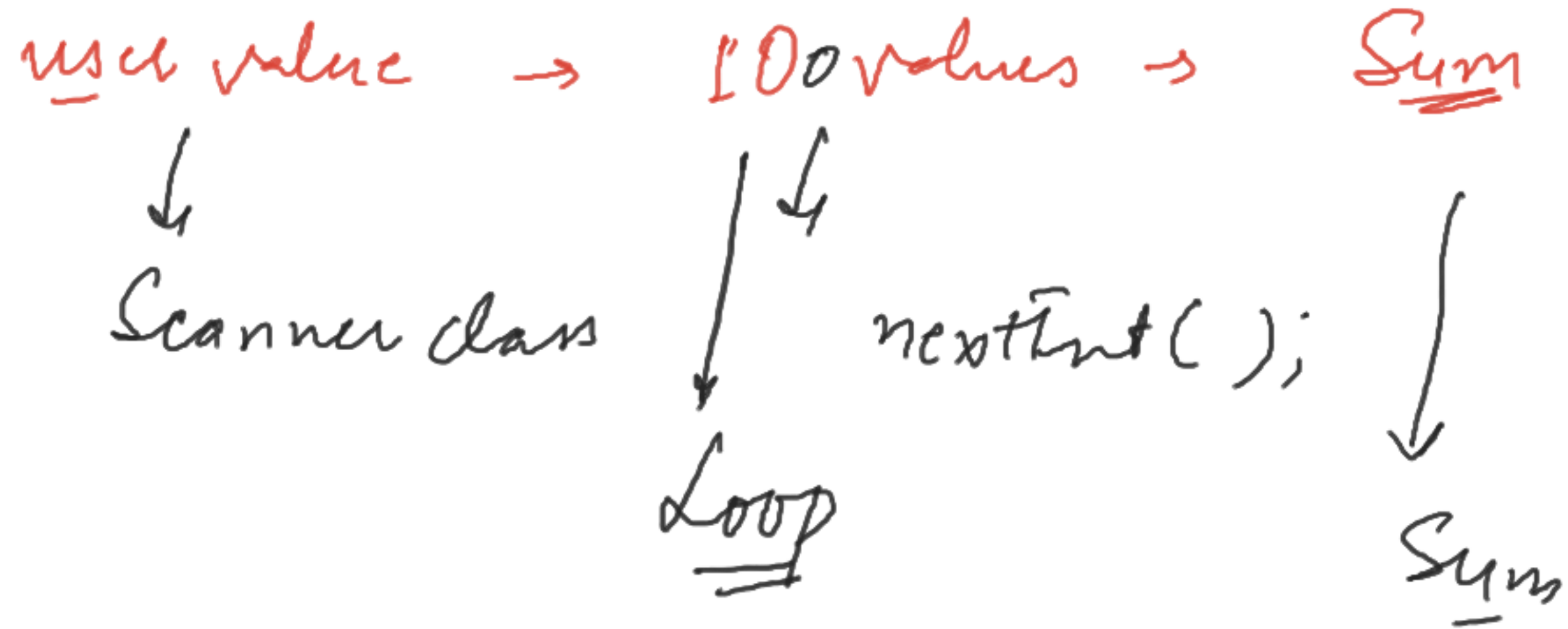
```
int sum = 0;
    for (int i = 1; i <= 10; i++) {
        System.out.println("Please enter " + i + " number - ");
        int a = scn.nextInt();///22
        sum = sum + a;//0 + 1=1
        System.out.println("Sum is - " + sum);
    }
```

Sum = 0
      2 6

③

① ②

i = 1, i <= 10
Please enter 1 number
2
Sum = 0 + 2;
Sum = 2
i = 2, 2 <= 10 - true
Please enter 2 number
4
Sum = Sum + a;
2 + 4 = 6

print table 2

2 4 6 8 10 12

print table → 5

5 * 1 = 5

5 * 2 = 10

.
.

5 * 10 = 50

7

7 * 1 = 7

7 * 2 = 14

7 * 3 = 21

.
.