Loops :-

for loop -
While Loop -
Do-While Loop

for (<starting from variable); < condition > ; < managing th
                                                iterating var.) {

    ~~~~~

}

2
4
6
8
10
12
14
16
18
20

i = 1̶ 2̶ 3̶ 4̶ 5̶ 6̶ 7̶ 8̶ 9̶ 1̶0̶ 11
      (once)
        0   1 ↰ 3

```
for (int i = 1; i <= 10; i++) {
  2 System.out.println(2 * i);
}
```

Post In/Dec   Pre - Inc/Dec

    i++   ++i
    ____   ____

    i--   --i
    ____   ____

        Sout (i++) => 1

        Sout (++i) => 2

While :-

while (< condition >) {

    _____

}

i = 1̶ 2̶ 3̶ 4̶ 5̶ 6̶ 7̶ 8̶ 9̶ 1̶0̶ 11

2 × 1 = 2
2 × 2 = 4
2 × 3 = 6

```
int i=1;
while(i<=10){
  3 System.out.println(2 + " * " + i + " = " + (2 * i));
  4 i++;
}
```

$2 \times 10 = 20$.

do-while :-

do {

_____

_____ }

} while (<cond>);

$i = \cancel{1} \; \cancel{2} \; 3 \; 4 \; \cancel{5} \cancel{6} \cancel{7} \; 8 \; 9 \; \cancel{10} \; 11$

$2 \times 1 = 2$
$2 \times 2 = 4$
$2 \times 3 = 6$
⋮
$2 \times 10 = 20$

```
1  int i=1;
2  do{
3      System.out.println(2 + " * " + i + " = " + (2 * i));
4      i++;
5  }while (i<=10);
```

true ↕ → ✗ False

$i = 2$

$i++ \quad == \quad i = i + 1$
$\qquad\qquad\qquad i = 2 + 1 = 3$

$\dfrac{i++:}{i--} \qquad \dfrac{i = i + 1}{i = i - 1}$

$i = i \times 2$

Methods :- (functions) $a = 2$, $b = 3$

a ; b

$\dfrac{a \times b}{a \times (b+1)} = 6$

$a \times (b+1) = 8$

$a \times (b+1) = 10 \qquad a = 10$

$i = \cancel{0} \; \cancel{1} \; \cancel{2} \cancel{3} \; 4 \; \cancel{5} \cancel{6} \cancel{7} \; 8 \; 9 \; 10$

+

=

table

```
for (int i = 0; i < a; i++) {
    calculator();  10
}
```

writting a func. inside a function ✗

calling a func. inside a function ✓

writting a func. inside a class ✓

calling a func. _inside_ a class ✗