loops :- • while
              • do - while
              • for

while ( _____ ) {
    _____
    _____ '' ,
    _____
}

do {
    _____
    _____
} while ( ___ )

n=2

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

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

i= 1 2 3 4 5 6 7 8 9 10 11 12

2×1 = 2
2×2 = 4
2×3 = 6
2×4 = 8
2×5 = 10
2×6 = 12
2×7 = 14
2×8 = 16
2×9 = 18
2×10 = 20
2×11 = 22

for loop :-
for (init. of var ; condition ; modifying the var) {
    _____
    _____
    _____
}

nested loops :-

$I^{st}$ for ( ___ ) {
    $II^{nd}$ for ( ___ ) {

n = 4

X X X X
X X X X
X X X X
X X X X

$II^{nd}$ yo (____) ?

≡

?

}
$i = \cancel{0+} \cancel{2} 3$

$y = \cancel{0} \times \cancel{2} 3$

X _ X __ X — ↵
X _ X → X — ↵
X _ X _ X — ↵

X  X  ∧  ^
X  X  X  X

n = 3

```java
public static void patternX(int n) {
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            System.out.print("X ");
        }
        System.out.println();
    }
}
```