

* If any variable written inside the loop it is only valid inside the loop. Not in the whole program.

Nested Loops

1) Print star pattern ?

```
x
xx
xxx
xxxx
```

⇒ ① lines (4)
↳ outer loop → 4 times

② Number of times
↳ inner loop

If we i^{th} lines
then the its i times.

```
→ for(int line=1; line<=4; line++) {
    for(int star=1; star<=line; star++) {
        sysout(" ");
    }
}
```

③ What to print?

⇒ " * "

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2) Inverted star pattern ?

```
→ xxx
  xxx
   xx
    x
```

⇒ for(int line=1; line<=4; line++)
{ for(int star=1; star<=(4-line+1); star++)
{ sysout(" "); } }

3) Half pyramid pattern ?

```
1
1 2
1 2 3
1 2 3 4
```