

Day - 3

18/feb/2023.

Loop's with Some pattern programs

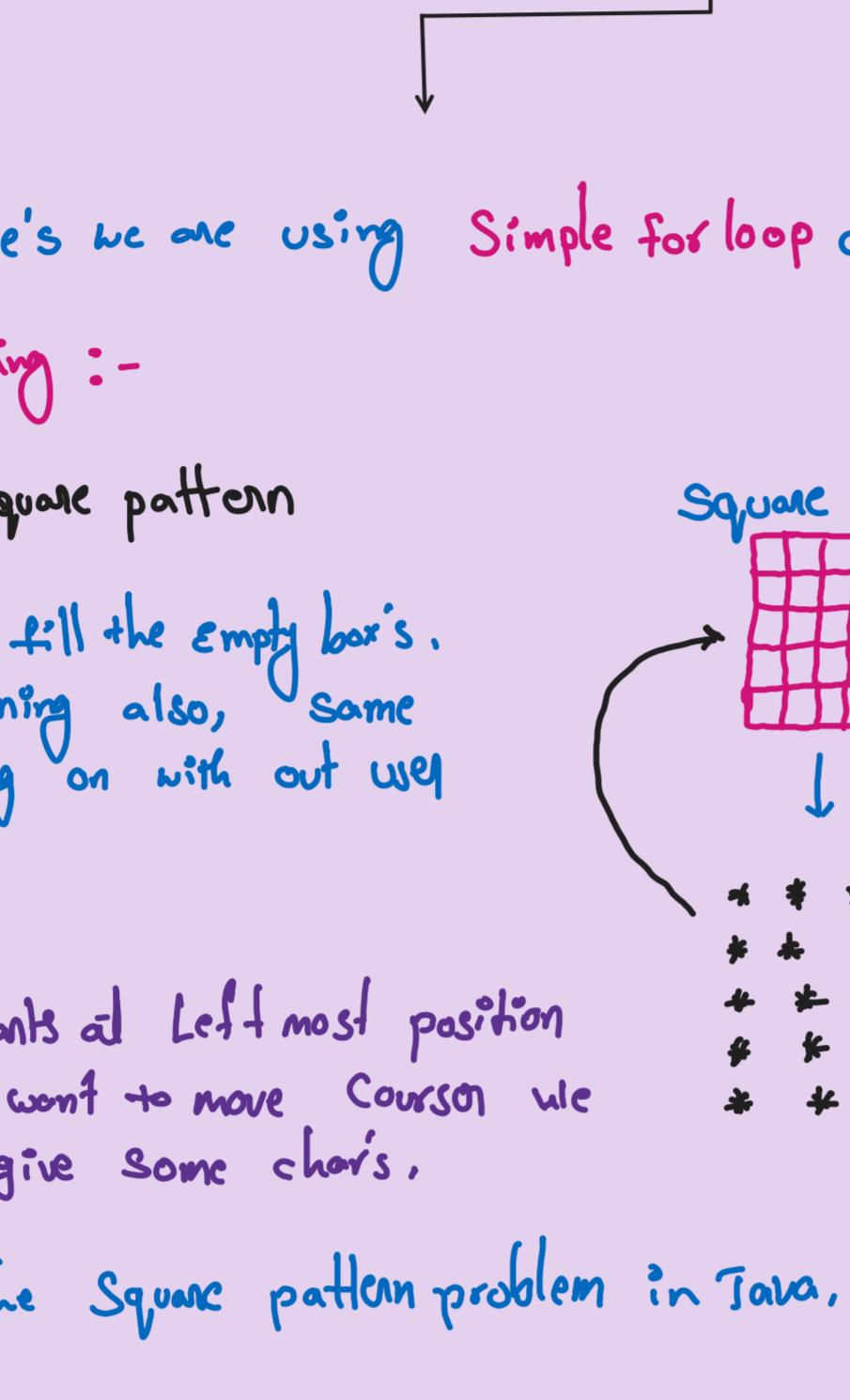
- for
- while
- do while

for loop :-

- Simple for loop
- For each loop
- Labeled for Lo

Simple for loop :-

```
for (Initialization; condition; increment/decrement){
```



most of time's we are using Simple for loop only.

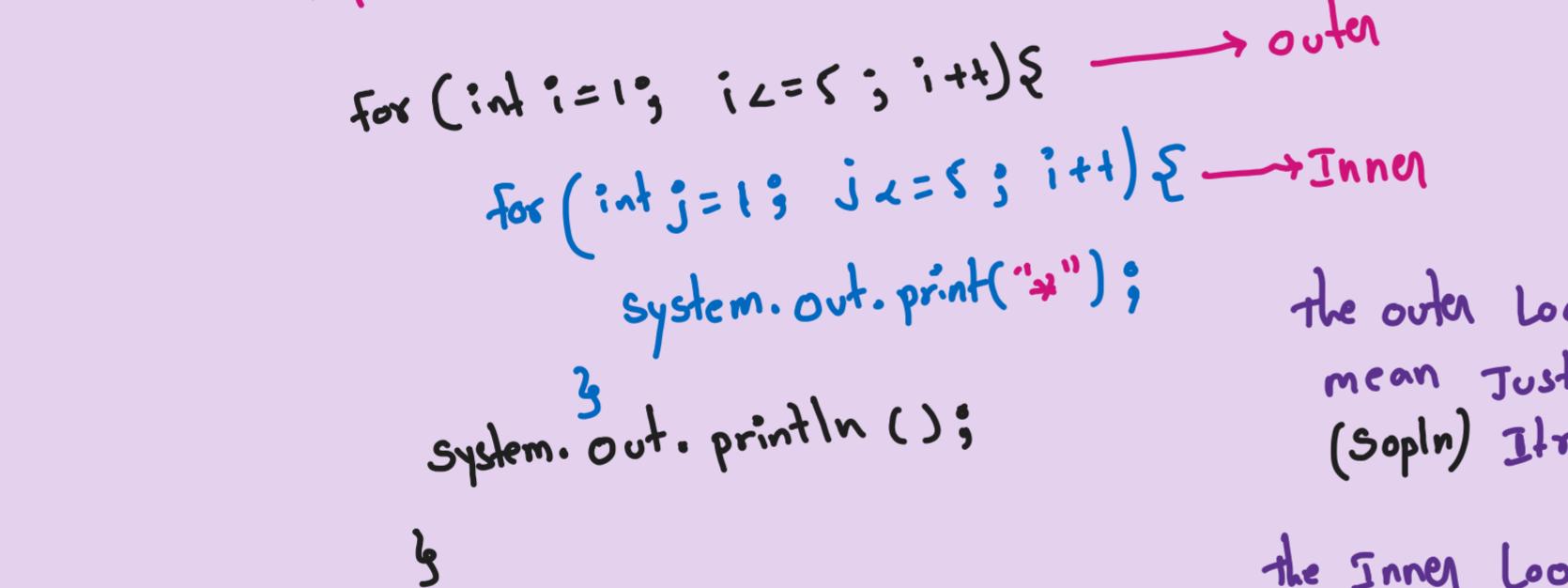
problem solving :-

① square pattern

We need to fill the empty box's.
In programming also, same
nothing going on with out well
Input's.

Note:
Cursor starts at Left most position
So, if you want to move Cursor we
need to give some char's.

Let's solve the Square pattern problem in Java.



This guy hitting start key 5 times
the cursor move towards next position.

finally the cursor comes to the sixth position

After 5 steps this one hit Enter button

The cursor goes next line,
at left most position.

Here:

→ This guy repeated same work five, five times,

→ Hitting * five times and hitting enter button once.

→ again same repeated

* * * * * →

* * * * * →

Let's we will develop Donkey logic.

```
sop, print("*");
print("*");
print("*");
print("*");
print("*");
sop → println();
```

This is Repeated 35 times
the total code is 35 line
to write one square pattern
program.

Note: And this not good
approach to write
a code, and this is
static way not a dynamic,

Now we will use Loop's to overcome the
Repetitive work.

for (int i=1; i<=5; i++) { → outer

for (int j=1; j<=5; j++) { → inner

System.out.print("*");

System.out.println();

the outer loop printing Row's
mean Just hitting Enter's
(sopn) Iterating after inner loop,

The package name
in Day 3

The inner loop;

The inner loop printing star's
as per our requirement,

that's enough

Let's solve Some Complex problem's

Pyramid pattern we will solve now: (we will solve these two problems)

We have 2 types pyramid's

Total 5 rows, 9 columns

→ (5x5) → (5x9)

This is pyramid Right.

→ (5x5) → (5x9)

our Required pattern.

→ 1st iteration we are printing
4 spaces and one star.

3 " 3 "

2 " 5 "

1 " 7 "

0 " 9 "

Here Note:

cursor doesn't move
without char, so we need to give

Space. Space is not empty

char.

Here understand the algo, let's crack it. Spaces are decreasing
spaces started from 4-0, star's started from 1-9,
star's printing only "ODD" numbers only upto 9 stars.

so we need to understand the algo Every single problem,
if the problem is Big, then split the problem into small parts
then solve part wise.

Let's :- write code to pyramid pattern.

```
for (int i=1; i<=5; i++){
```

```
  for (int j=1; j=i; j++){
```

```
    print(" ");
```

```
  }
```

```
  for (int k=1; k=i; k++){
```