Lecture 3

Patterns → Start at 1:42 p.m.

Basics Syntax
if else
Loops

Arrays
Functions 1 and
Functions 2.

Stack

```
public static void main(String[] args){
int n = 5;
int row = 1;
int nst = n;
while (row <= n){
int col = 1;
while (col <= nst){
System.out.print("*");
col++;
}
System.out.println();
nst--;
row++;
}
}
```

```
public static void main(String[] args){
int n = 5;
int nst = n;
int row = 1;
while (row <= n){
int col = 1;
while (col <= nst){
System.out.print("*");
col++;
}
nst--;
System.out.println();
row++;
}
}
```

Pattern 4

n=5

```
public static void main(String[] args){
int n = 5;
int row = 1;
int nsp = 0;
int nst = n;
while (row <= n){
int col = 1;
while (col <= nsp){
System.out.print(" ");
col++;
}
col = 1;
while (col <= nst){
System.out.print("*");
col++;
}
System.out.println();
nsp = nsp + 2;
nst--;
row++;
}
}
```

row	nst	nsp
1	5	0
2	4	2
3	3	4
4	2	6
5	1	8

```
public static void main(String[] args){
int n = 5;
int row = 1;
int nsp = 0;
int nst = n;
while (row <= n){
int col = 1;
while (col <= nsp){
System.out.print(" ");
col++;
}
col = 1;
while (col <= nst){
System.out.print("*");
col++;
}
System.out.println();
nsp = nsp + 2;
nst--;
row++;
}
}
```

```
public static void main(String[] args){
int n = 5;
int row = 1;
int nsp = 0;
int nst = n;
while (row <= n){
int col = 1;
while (col <= nsp){
System.out.print(" ");
col++;
}
col = 1;
while (col <= nst){
System.out.print("*");
col++;
}
if (row <= n/2){
nsp = nsp + 2;
nst--;
}
else {
nsp = nsp - 2;
nst++;
}
System.out.println();
row++;
}
}
```

pattern

10<9

Same work → while

+ve
-ve → x

```
if (row <= n){
=
if (row <= n/2){ } else {
=
} else {
=
}
```

```
public static void main(String[] args){
int n = 4;
int row = 1;
int value = 1;
int nst = 1;
while (row <= n){
int col = 1;
while (col <= nst){
System.out.print(value);
value++;
col++;
}
System.out.println();
row++;
}
}
```

```
public static void main(String[] args){
int row = 1;
int n = 4;
int decvalue = 1;
int nsp = n - 1;
while (row <= n){
int col = 1;
while (col <= nsp){
System.out.print(" ");
col++;
}
int value = row;
int col = 1;
while (col <= incvalue){
System.out.print(value);
value++;
col++;
}
col = 1;
value = value - 2;
while (col <= decvalue){
System.out.print(value);
value--;
col++;
}
nsp--;
incvalue++;
decvalue++;
row++;
System.out.println();
}
}
```

5 <= 4 → false

Lec 1-3 } Basics

Syntax, Loops, Patterns, if else if

4 → data types, functions, how things are stored in memory

Patterns

Wednesday

online.codingblocks.com

Challenges - Patterns

Stack

Manu & Kartik

Lupa

① Prepare for the first row.

② first row Ka kaam.

③ next row ki tyaari
ie agr tum first row main
ho usmein rehkar prepare
for 2nd row after you
have finished work for
first row

④ Move to second row and
skipped ~~and~~ 3 and ④