

```

① import java.util.*;
class SquarePattern {
    public static void main (String args[]) {
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter size");
        int n = sc.nextInt();
        for (int i=1; i<=n; i++) {
            for (int j=1; j<=n; j++) {
                System.out.print ("*");
            }
            System.out.println ();
        }
    }
}

```

* Dry run initialise i=1; initialise j=1;
 $n=4$
 value(i) condition value(j) condn

1	$i <= 4$	1	$i <= 4 \rightarrow *$
2		2	$2 <= 4 \rightarrow *$
3		3	$3 <= 4 \rightarrow *$
4		4	$4 <= 4 \rightarrow *$

..... * * * *

2	$i <= 4$	1	$i <= 4 \rightarrow *$
2		2	$2 <= 4 \rightarrow *$
3		3	$3 <= 4 \rightarrow *$
4		4	$4 <= 4 \rightarrow *$

..... * * * *

3	$i <= 4$	1	$i <= 4 \rightarrow *$
2		2	$2 <= 4 \rightarrow *$
3		3	$3 <= 4 \rightarrow *$
4		4	$4 <= 4 \rightarrow *$

..... * * * *

4	$i <= 4$	1	$i <= 4 \rightarrow *$
3		2	$2 <= 4 \rightarrow *$
3		3	$3 <= 4 \rightarrow *$
4		4	$4 <= 4 \rightarrow *$

```

② import java.util.*;
class SquarePattern2 {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter size:");
        int n = sc.nextInt();
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                System.out.print(i + "-");
            }
            System.out.println();
        }
    }
}

```

→ O/P:

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

* Dry run

value(i)	condition	value(j)	condn
----------	-----------	----------	-------

i = 1 → 1 <= 4

j = 1 → condition → 1 <= 4 → 1

→ ∵ 1 1 1 1

j = 2 → 2 <= 4 → 1
j = 3 → 3 <= 4 → 1
j = 4 → 4 <= 4 → 1

i = 2 → 2 <= 4

j = 1 → 1 <= 4 → 2

j = 2 → 2 <= 4 → 2

j = 3 → 3 <= 4 → 2

→ ∵ 2 2 2 2

j = 4 → 4 <= 4 → 2

i = 3 → 3 <= 4

j = 1 → 1 <= 4 → 3

j = 2 → 2 <= 4 → 3

j = 3 → 3 <= 4 → 3

→ 3 3 3 3

j = 4 → 4 <= 4 → 3

Page No. _____
Date _____

```

③ import java.util.*;
class SquarePattern3 {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter size:");
        int n = sc.nextInt();
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                System.out.print(j + "-");
            }
            System.out.println();
        }
    }
}

```

→ O/P:-

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

* Dry run

$$n=4$$

`value(i) condition value(j) condition`

$i=1$ $1 < 4 \rightarrow j=1 \rightarrow 1 < 4 \rightarrow 1$
 $j=2 \rightarrow 2 < 4 \rightarrow 2$
 $j=3 \rightarrow 3 < 4 \rightarrow 3$
 $j=4 \rightarrow 4 < 4 \rightarrow 4$
 $\rightarrow 1 \ 2 \ 3 \ 4$

$i=2 \rightarrow 2 < 4 \rightarrow j=1 \rightarrow 1 < 4 \rightarrow 1$
 $j=2 \rightarrow 2 < 4 \rightarrow 2$
 $j=3 \rightarrow 3 < 4 \rightarrow 3$
 $j=4 \rightarrow 4 < 4 \rightarrow 4$

$i = 3 \rightarrow j = 3 \rightarrow j = 2 \rightarrow j = 1 \rightarrow$