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Experiment 1

Star.java > Star > main(String[])

```java
import java.util.Scanner;
public class Star
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.print("Enter the value of N: ");
        int n = sc.nextInt();
        for (int i = 1; i <= n; i++)
        {
            System.out.print("*");
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java Star
Enter the value of N: 5
*****
D:\hiya kuliah\P_Daspro\java>java Star
Enter the value of N: 10
**********
D:\hiya kuliah\P_Daspro\java>
```

Questions 1

1. The result is the star (*) will be added 1 more, this happened because the star is counted from 0 and 0 will be counted as 1, so if we count from 0 (0, 1, 2, 3 ,4 ,5) there will be 6 numbers, so it will output 6 stars
2. As long as the n is smaller than I, it won't stop the program because it doesn't meet any condition to stop the looping
3. As long as the n is bigger than I, it won't stop the program because it doesn't meet any condition to stop the looping

Experiment 2

```java
import java.util.Scanner;
public class Square
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.print("Enter the value of N: ");
        int n = sc.nextInt();
        for (int iOuter = 1; iOuter <= n; iOuter++)
        {
            for (int i = 1; i <= n; i++)
            {
                System.out.print("*");
            }
            System.out.println("");
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java Square
Enter the value of N: 5
*****
*****
*****
*****
*****

D:\hiya kuliah\P_Daspro\java>
```

Questions 2

1. The line of the stars will be added more by 1, because the line will be counted from 0 so it will have 6 lines (0, 1, 2, 3, 4, 5)
2. The stars will be added more by 1, because the stars will be counted from 0 so it will have the same reason as number 1
3. The outer loop will be executed if the inner loop completed the loop
4. Because the println is used to create a new line, if the println is omitted, then the loop will continue the line rather than create a new line

Experiment 3

```java
import java.util.Scanner;
public class Trianglejb7
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.print(s: "Enter the value of N: ");
        int n = sc.nextInt();
        int i = 0;
        while (i <= n)
        {
            int j = 0;
            while (j < i)
            {
                System.out.print(s: "*");
                j++;
            }
            i++;
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac Trianglejb7.java

D:\hiya kuliah\P_Daspro\java>java Trianglejb7
Enter the value of N: 5
***************
D:\hiya kuliah\P_Daspro\java>
```

Questions 3

1. no
2. System.out.println();

Experiment 4

```java
import java.util.Scanner;
import java.util.Random;
public class Quiz
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner input = new Scanner (System.in);
        Random rand = new Random();
        char menu = 'y';
        do
        {
            int number = rand.nextInt(bound: 10) + 1;
            boolean success = false;
            do
            {
                System.out.print(s: "Guess the number (1-10): ");
                int answer = input.nextInt();
                input.nextLine();
                success = (answer == number);
            }
            while (!success);
            System.out.print(s: "Do you want to repeat the game (Y/N)");
            menu = input.next().charAt(index: 0);
            input.nextLine();
        }
        while (menu == 'Y' || menu == 'y');
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java Quiz
Guess the number (1-10): 9
Guess the number (1-10): 7
Guess the number (1-10): 10
Guess the number (1-10): 3
Guess the number (1-10): 5
Guess the number (1-10): 2
Guess the number (1-10): 3
Guess the number (1-10): 5
Guess the number (1-10): 6
Guess the number (1-10): 7
Guess the number (1-10): 8
Do you want to repeat the game (Y/N)
```

Questions 4

1. Firstly, the program randomize the number between 0-10, then it will loop the “Guess the number (1-10) until we meet the correct answer. Once we meet the correct answer, the loop will stop and print “Do you want to repeat the game (Y/N)”, if we type y then the program will loop again, otherwise the program will stop
2. After we complete the quiz, input anything except Y/y
3. We add these lines inside the inner loop

```
if (answer > number)
{
    System.out.println("the answer is smaller");
}
else if (answer < number)
{
    System.out.println("the answer is greater");
}
```

Assignments

1.

```java
import java.util.Scanner;
public class assignmentjb71
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        int height;
        do
        {
            System.out.print(s: "Insert the height of the triangle
            height = sc.nextInt();
            if (height >= 3) break;
            System.out.println(x: "Please insert more than 3!");
        }
        while (true);
        for (int i = 1; i <= height; i++)
        {
            int number = 1;
            for (int j = 1; j <= height; j++)
            {
                if (j > height-i)
                {
                    System.out.print(number);
                    number++;
                }
                else
                {
                    System.out.print(s: " ");
                }
            }
            System.out.println();
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java assignmentjb71
Insert the height of the triangle (min 3): 5
    1
   12
  123
 1234
12345
```

2.

```java
import java.util.Scanner;
public class assignmentjb72
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        int height;
        do
        {
            System.out.print(s: "Insert the height of the triangle
            height = sc.nextInt();
            if (height >= 5) break;
            System.out.println(x: "Please insert more than 5!");
        }
        while (true);
        for (int i = 1; i <= height; i++)
        {
            for (int j = 0; j <= height - i; j++)
            {
                System.out.print(s: "*");
            }
            System.out.println();
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java assignmentjb72
Insert the height of the triangle (min 5): 7
*******
******
*****
****
***
**
*

D:\hiya kuliah\P_Daspro\java>
```

3.

assignmentjb73.java > assignmentjb73 > main(String[])

```java
import java.util.Scanner;
public class assignmentjb73
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        int height;
        do
        {
            System.out.print(s: "Insert the height of the square (min 3, max 9): ");
            height = sc.nextInt();
            if (height >= 3 && height <= 9) break;
            System.out.println(x: "Please insert more than 2 or less than 10!");
        }
        while (true);
        for (int i = 1; i <= height; i++)
        {
            for (int j = 1; j <= height; j++)
            {
                boolean isFirstLasti = i == 1 || i == height;
                boolean isFirstLastj = j == 1 || j == height;
                if (isFirstLasti || isFirstLastj)
                {
                    System.out.print(height + " ");
                }
                else
                {
                    System.out.print(s: "  ");
                }
            }
            System.out.println(x: "");
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java assignmentjb73
Insert the height of the square (min 3, max 9): 10
Please insert more than 2 or less than 10!
Insert the height of the square (min 3, max 9): 8
8 8 8 8 8 8 8 8
8             8
8             8
8             8
8             8
8             8
8             8
8 8 8 8 8 8 8 8
```

4.

assignmentjb74.java > assignmentjb74 > main(String[])

```java
import java.util.Scanner;
public class assignmentjb74
{
    Run | Debug
    public static void main (String[]args)
    {
        Scanner sc = new Scanner (System.in);
        int height;
        do
        {
            System.out.print(s: "Insert the height of the square (min 5): ");
            height = sc.nextInt();
            if (height >= 5) break;
            System.out.println(x: "Please insert more than 4!");
        }
        while (true);
        for (int i = 0; i < height; i++)
        {
            for (int j = 0; j < height; j++)
            {
                boolean even = i % 2 == 0;
                System.out.print(even ? height - j : j + 1);
            }
            System.out.println();
        }
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java assignmentjb74
Insert the height of the square (min 5): 5
54321
12345
54321
12345
54321
```