Rajalakshmi Engineering College

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 2_Q6

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Maya, a student in an arts and crafts class, wants to create a pattern using stars (*) in a specific format. She plans to use a program to help her construct the pattern.

Write a program that takes an integer as input and constructs the following pattern using nested for loops.

Input: 5

Output:

*

* *

```
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Input Format

The input consists of a number (integer) representing the number of rows.

Output Format

The output displays the required pattern.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 5
Output: *
```
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Answer

```java
// You are using Java
import java.util.*;

public class Main {
    public static void main(String[] args) {
```

```java
Scanner sc = new Scanner(System.in);
int rows = sc.nextInt();
sc.close();

// Upper half including middle row
for (int i = 1; i <= rows; i++) {
    for (int j = 1; j <= i; j++) {
        System.out.print("*");
        if (j < i) System.out.print(" "); // Avoid extra space at end
    }
    System.out.println();
}

// Lower half
for (int i = rows - 1; i >= 1; i--) {
    for (int j = 1; j <= i; j++) {
        System.out.print("*");
        if (j < i) System.out.print(" "); // Avoid extra space at end
    }
    System.out.println();
}
}
}
```

Status : Correct   *Marks : 10/10*