

CMSC131 QUIZ #2 KEY FALL 2019 (DURATION: 10 MINUTES)

FIRSTNAME, LASTNAME (PRINT IN UPPERCASE):

STUDENT ID (e.g. 123456789):

Complete the program below that prints a triangle where the symbols * and + alternate in order to generate the diagram. The program will read the size (an integer value) of the triangle. It will then generate a triangle with a number of rows that corresponds to size and where * and + characters alternate (the diagram starts with *). We use the message "Enter size:" to read data. Below we have provided two examples of running the program. Notice your program must work for other values. Underlined text represent input provided by the user. Write your code in the provided rectangular area.

Enter size: 3

```
*
+*
**+
```

Enter size: 6

```
*
+*
***
****+
*****
+++++*
```

One Possible Solution

```
public class Diagram {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter size: ");
        int maxRows = scanner.nextInt();

        char option1 = '*', option2 = '+', symbol = option1;
        for (int row = 1; row <= maxRows; row++) {
            for (int col = 1; col <= row; col++) {
                System.out.print(symbol);
                if (symbol == option1) {
                    symbol = option2;
                } else {
                    symbol = option1;
                }
            }
            System.out.println(); // newline
        }

        scanner.close();
    }
}
```