**Week 3 M3: Programming Assignment  
Number Pyramid**

Juan Macias Vasquez

Bellevue University

CSD402-H323 Java for Programmers (2261-DD)

**Jack Lusby**

August 31st, 2025

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**Number Pyramid**

**GitHub Repository Link:**

<https://github.com/Juan551School/csd-402>

**Java Code**

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**package** loops;

**public** **class** Loop {

**public** **static** **void** main(String[] args) {

**int** rows = 7; // number of rows

// First calculate the maximum width

StringBuilder lastRow = **new** StringBuilder();

**int** num = 1;

// Build ascending part for last row

**for** (**int** j = 1; j <= rows; j++) {

lastRow.append(num).append(" ");

num \*= 2;

}

// Build descending part for last row

num /= 2;

**for** (**int** j = rows - 1; j >= 1; j--) {

num /= 2;

lastRow.append(num).append(" ");

}

**int** maxWidth = lastRow.length(); // maximum characters before @

// Print each row

**for** (**int** i = 1; i <= rows; i++) {

StringBuilder row = **new** StringBuilder();

// Build numbers for this row

**int** n = 1;

**for** (**int** j = 1; j <= i; j++) {

row.append(n).append(" ");

n \*= 2;

}

n /= 2;

**for** (**int** j = i - 1; j >= 1; j--) {

n /= 2;

row.append(n).append(" ");

}

// Convert to string for spacing adjustments

String rowStr = row.toString();

// Add leading spaces so the pyramid is centered

**int** leftPadding = (maxWidth - rowStr.length()) / 2;

StringBuilder finalRow = **new** StringBuilder();

**for** (**int** s = 0; s < leftPadding; s++) {

finalRow.append(" ");

}

finalRow.append(rowStr);

// Pad to maxWidth so that @ aligns

**while** (finalRow.length() < maxWidth + 1) {

finalRow.append(" ");

}

// Print row with aligned @ symbol

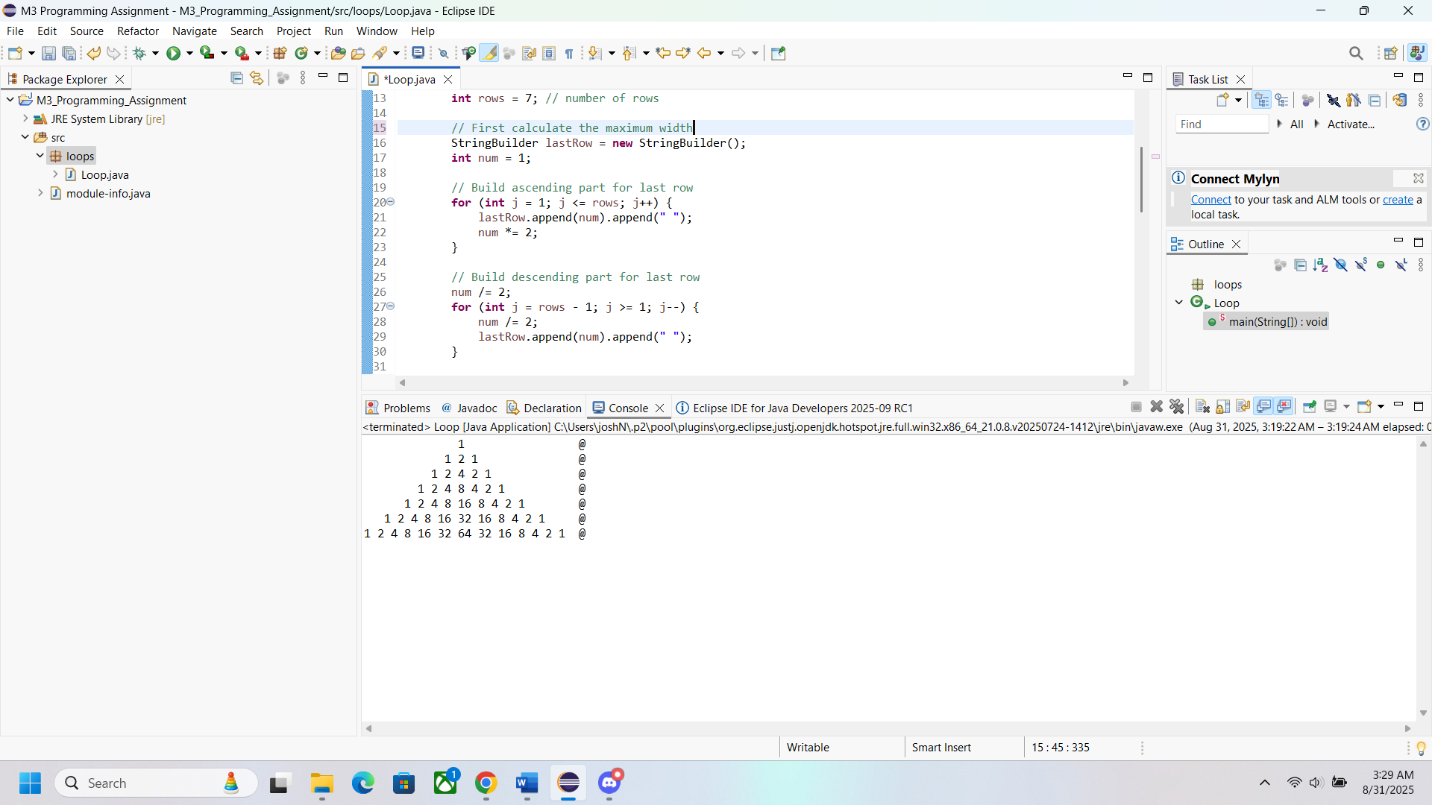
System.***out***.println(finalRow.toString() + "@");

}

}

}

**Pictures of Code Running**

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