This Java program performs various operations on a 2D array (matrix) and demonstrates the use of methods, loops, conditionals, and variable handling**.** Each functionality is implemented in its respective method, and the program demonstrates matrix operations such as initialization, displaying, summing, transposing, finding the maximum, and counting even/odd numbers. The program also uses a Matrix class with setters and getters, and some static methods are included to show their usage.

Explanation

1. **Matrix Initialization**: The initializeMatrix method creates a 2D array filled with random integers using the Random class.
2. **Matrix Display**: The displayMatrix method uses nested loops to print the matrix in a readable format.
3. **Sum of Elements**: The sumOfElements method iterates through the matrix to sum all elements.
4. **Transpose of Matrix**: The transposeMatrix method swaps rows and columns of the matrix and returns a new transposed matrix.
5. **Find Maximum Element**: The findMax method iterates through the matrix to find the maximum value.
6. **Count Even/Odd Numbers**: The countEvenOdd method counts even and odd numbers and returns an array with both counts.
7. **Call by Reference/Value**: Demonstrated using primitive types (rows) and the matrix.