

## Checking for Magic Squares

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

    int[][] Matrix = { {8, 1, 6},
                        {3, 5, 7},
                        {4, 9, 2}
                      };

    int hsum = 0;
    for (int i = 0; i < Matrix.length; i++) {
        hsum = 0;
        for (int j = 0; j < Matrix[0].length; j++)
            hsum += Matrix[i][j];
        System.out.println("The sum of each of our rows = " + hsum);
    }

    int vsum = 0;
    for (int j = 0; j < Matrix[0].length; j++) {
        vsum = 0;
        for (int i = 0; i < Matrix.length; i++)
            vsum += Matrix[i][j];
        System.out.println("The sum of each of our columns = " + vsum);
    }

    int dsum1 = 0;
    for (int i = 0; i < Matrix.length; i++)
        dsum1 += Matrix[i][i];
    System.out.println("The diagonal sum from Top Left to Bottom Right = " + dsum1);

    int dsum2 = 0;
    for (int i = 0; i < Matrix.length; i++)
        dsum2 += Matrix[i][Matrix.length - i - 1];
    System.out.println("The diagonal sum from Top Right to Bottom Left = " + dsum2);

    if (hsum + vsum + dsum1 + dsum2 == 60) {
        System.out.println("Yes, It's a Magic Square!");
    }
}
```