Solution Review: Pascal's Triangle
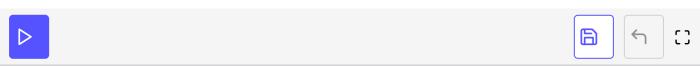
In this review, solution of the challenge 'Pascal's Triangle' from the previous lesson is provided.

> **We'll cover the following** ^
>
> - Solution

Solution

```java
class HelloWorld {
    public static void main( String args[] ) {
        int size = 5;
        int[][] pascalTr = new int[size][size];
        int row, col;
        //assign zero to every array element
        for (row = 0; row < size; row++)
            for (col = 0; col < size; col++)
             pascalTr[row][col] = 0;
        //first and second rows are set to 1s
        pascalTr[0][0] = 1;
        pascalTr[1][0] = 1;
        pascalTr[1][1] = 1;

        for (row = 2; row < size; row++) {
            pascalTr[row][0] = 1;
            for (col = 1; col <= row; col++) {
                pascalTr[row][col] = pascalTr[row - 1][col - 1] + pascalTr[row - 1][col];
            }
        }

        //display the Pascal Triangle
        for (row = 0; row < size; row++) {
            for (col = 0; col <= row; col++) {
                System.out.print(pascalTr[row][col] + " ");
            }
            System.out.print("\n");
        }
    }
}
```

Let's assume that we have to print a triangle of **size** = 5 as follows:

```
1
```

```
1 1
1 2 1

1 3 3 1
1 4 6 4 1
```

In any case, our starting point will be to initialize the first two rows to `1` like:
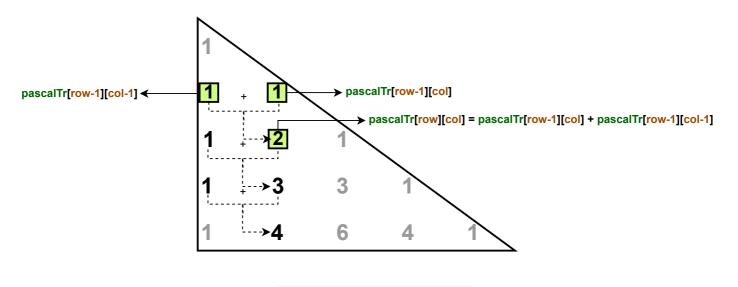
```
1
1 1
```

After this, we are fixing the first element of each row to `1` inside the loop by writing:

```
    pascalTr[row][0]=1;
```

The logic behind the next line of code

```
pascalTr[row][col]=pascalTr[row-1][col-1]+pascalTr[row-1][col];
```

is depicted below:

Understanding the Logic

At the end of the solution, we have implemented nested for loops to print this triangle to console.

Well, let's test our understanding of array through a quick quiz.