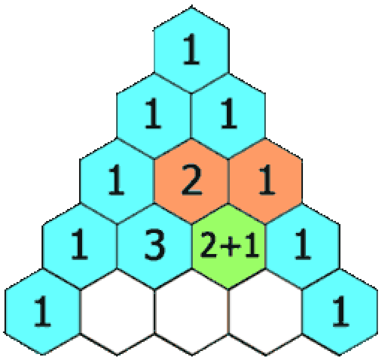
118. Pascal's Triangle

Description Hints Submissions Discuss Solution

Pick One

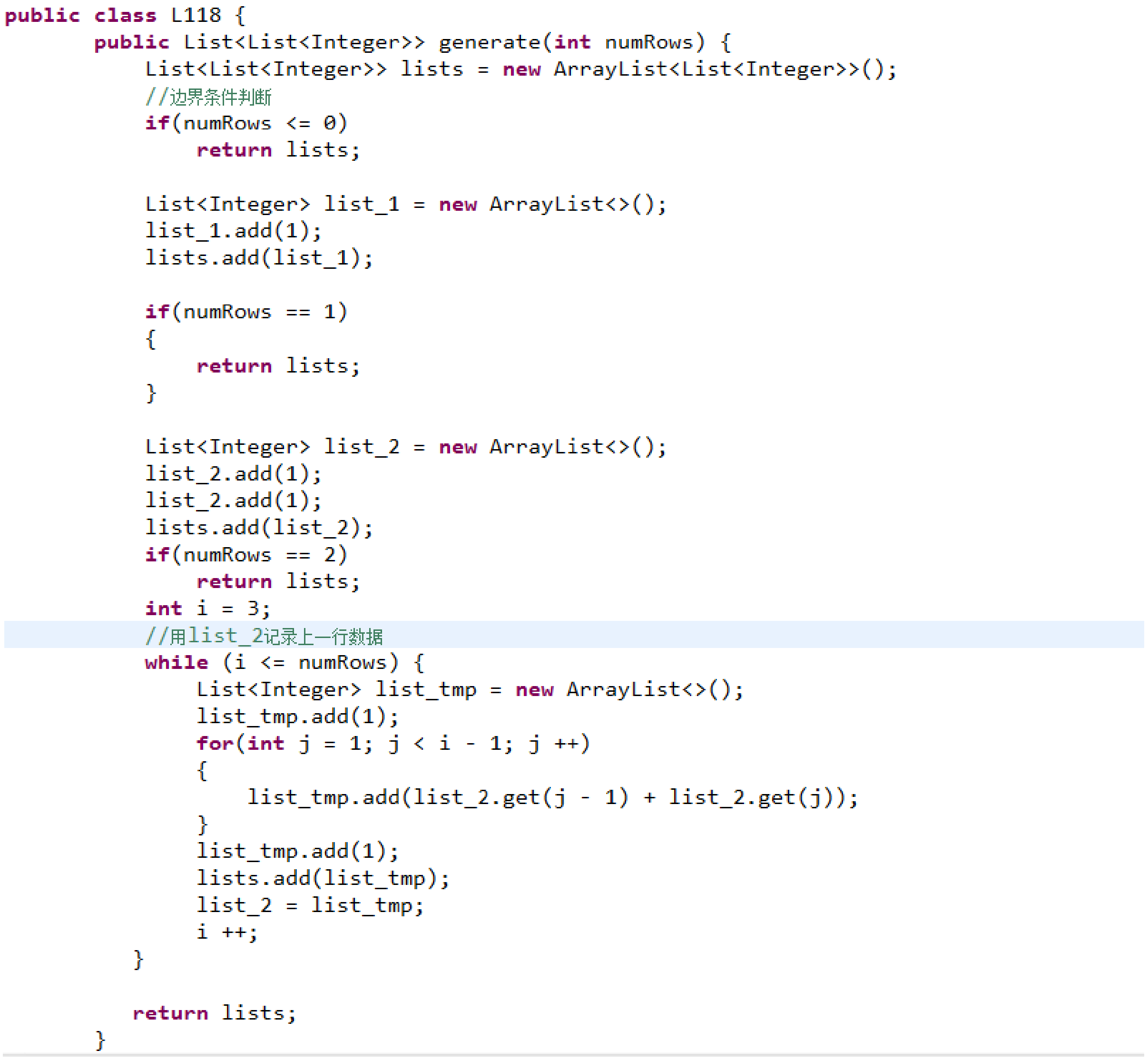
Given a non-negative integer *numRows*, generate the first *numRows* of Pascal's triangle.



In Pascal's triangle, each number is the sum of the two numbers directly above it.

Example:

```
Input: 5
Output:
[
     [1],
    [1,1],
   [1,2,1],
  [1,3,3,1],
 [1,4,6,4,1]
]
```



```java
public class L118 {
    public List<List<Integer>> generate(int numRows) {
        List<List<Integer>> lists = new ArrayList<List<Integer>>();
        //边界条件判断
        if(numRows <= 0)
            return lists;

        List<Integer> list_1 = new ArrayList<>();
        list_1.add(1);
        lists.add(list_1);

        if(numRows == 1)
        {
            return lists;
        }

        List<Integer> list_2 = new ArrayList<>();
        list_2.add(1);
        list_2.add(1);
        lists.add(list_2);
        if(numRows == 2)
            return lists;
        int i = 3;
        //用list_2记录上一行数据
        while (i <= numRows) {
            List<Integer> list_tmp = new ArrayList<>();
            list_tmp.add(1);
            for(int j = 1; j < i - 1; j ++)
            {
                list_tmp.add(list_2.get(j - 1) + list_2.get(j));
            }
            list_tmp.add(1);
            lists.add(list_tmp);
            list_2 = list_tmp;
            i ++;
       }

       return lists;
    }
```