118. Pascal's Triangle

118 Pascal's Triangle

- array

Description

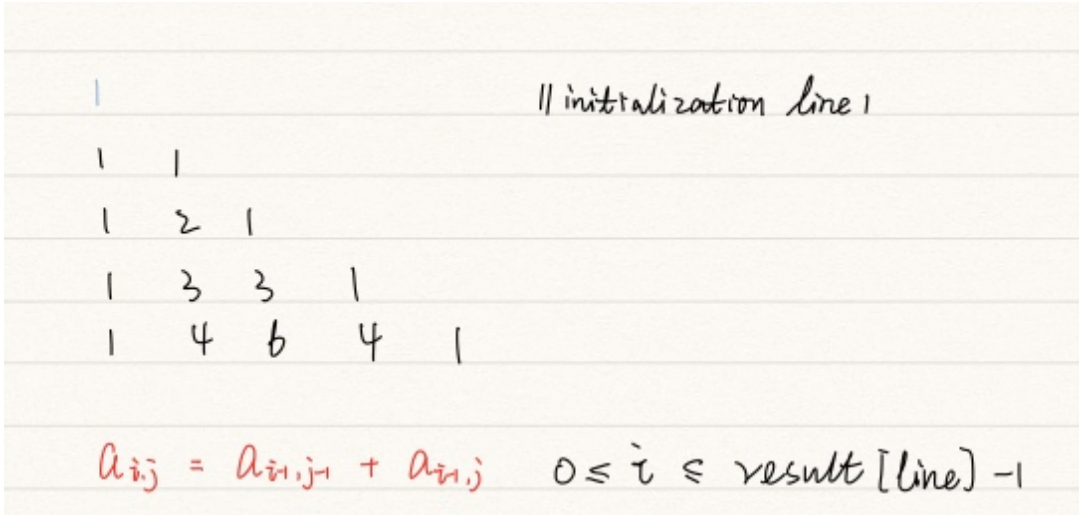
Given *numRows*, generate the first *numRows* of Pascal's triangle.

For example, given *numRows* = 5,

Return

```
[
     [1],
    [1,1],
   [1,2,1],
  [1,3,3,1],
 [1,4,6,4,1]
]
```

1. Thought line



2. Depth-first Search + Tree

```
class Solution {
public:
    vector<vector<int>> generate(int numRows) {
        if (numRows==0) return {};
        vector<vector<int>> result(numRows);
        result[0] = {1};

        for (int i = 1; i<=numRows-1; ++i){
            for (int j = 0; j<=i; ++j){
                int upLineSize = i; // // [0, upLineSize-1]
                int lfElementUpLine = (i-1>=0 && j-1>=0)? result[i-1][j-1]:0;
```

```
            int rtElementUpLine = (i-1>=0 && j<=i-1)? result[i-1][j]:0;
            result[i].push_back(lfElementUpLine+rtElementUpLine);
        }
    }
    return result;
}
};
```