

# Problem 22: Generate Parentheses

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 77.91%

**Paid Only:** No

**Tags:** String, Dynamic Programming, Backtracking

## Problem Description

Given  $n$  pairs of parentheses, write a function to generate all combinations of well-formed parentheses.

**Example 1:**

**Input:**  $n = 3$  **Output:** ["((()))", "(()())", "()()()", "()(())", "()()()"]

**Example 2:**

**Input:**  $n = 1$  **Output:** ["()"]

**Constraints:**

$1 \leq n \leq 8$

## Code Snippets

**C++:**

```
class Solution {
public:
    vector<string> generateParenthesis(int n) {

    }
};
```

**Java:**

```
class Solution {  
    public List<String> generateParenthesis(int n) {  
  
    }  
}
```

**Python3:**

```
class Solution:  
    def generateParenthesis(self, n: int) -> List[str]:
```