

Generate Parentheses

Try to solve the Generate Parentheses problem.

We'll cover the following

- Statement
- Examples
- Understand the problem
- Figure it out!
- Try it yourself

Statement

For a given number, n , generate all combinations of balanced parentheses.

Constraints:

- $1 \leq n \leq 13$

Examples

Sample example 1

Input

$n = 3$

Output

$((()))$	$((())())$	$((()))()$
$()(())$	$()()()$	

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Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

Generate Parentheses

1

Which is a valid combination of balanced parentheses when $n = 2$?

00

A) (())

((()

(())

B)))((

00



c) $()()$
 $()()$

Submit Answer



Question 1 of 3
0 attempted



Reset Quiz ↺

Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.



Drag and drop the cards to rearrange them in the correct sequence.

Create an output list to store all the valid combinations of parentheses.

Call the `backtrack` function with initial parameters set to n , empty string and 0 for the count of both, opening and closing parentheses.

If the count of opening and closing parentheses equals n , then we have a valid combination of parentheses,



so we will append the string
to our final list.

Otherwise, we will check if
the number of opening
parentheses is less than n . If
yes, we will add opening
parentheses to our string and
increment the count.

Lastly, we will check the
count of closing parentheses.
If the count is less than the
count of opening parentheses,
then we will add closing
parentheses to our string and
increment its count.

Reset

Show Solution

Submit

Try it yourself



Note: The test cases are set up such that the value of n ranges from 1 to 5.



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Java



usercode > main.java

```
1 import java.util.*;
```

```
2
3 public class Main{
4     public static ArrayList<String> generateCombinations(int n) {
5
6         // Your code will replace this placeholder
7
8         ArrayList<String> result = new ArrayList<String>();
9         return result;
10    }
11 }
```

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Test Cases

Results

Case 1

Case 2

Case 3

Input #1

1

Generate Parentheses

 Back

Solution: Letter Combi...

Next 

Solution: Generate Par...



Mark as
Completed

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