# Debugging, Call Stack and Recursion

# Debugging and Debugger

# Function Call stack

Call Stack

- a data structure
- which records function calls

# RECURSION

# Recursion

*In order to understand recursion you must first understand recursion!*

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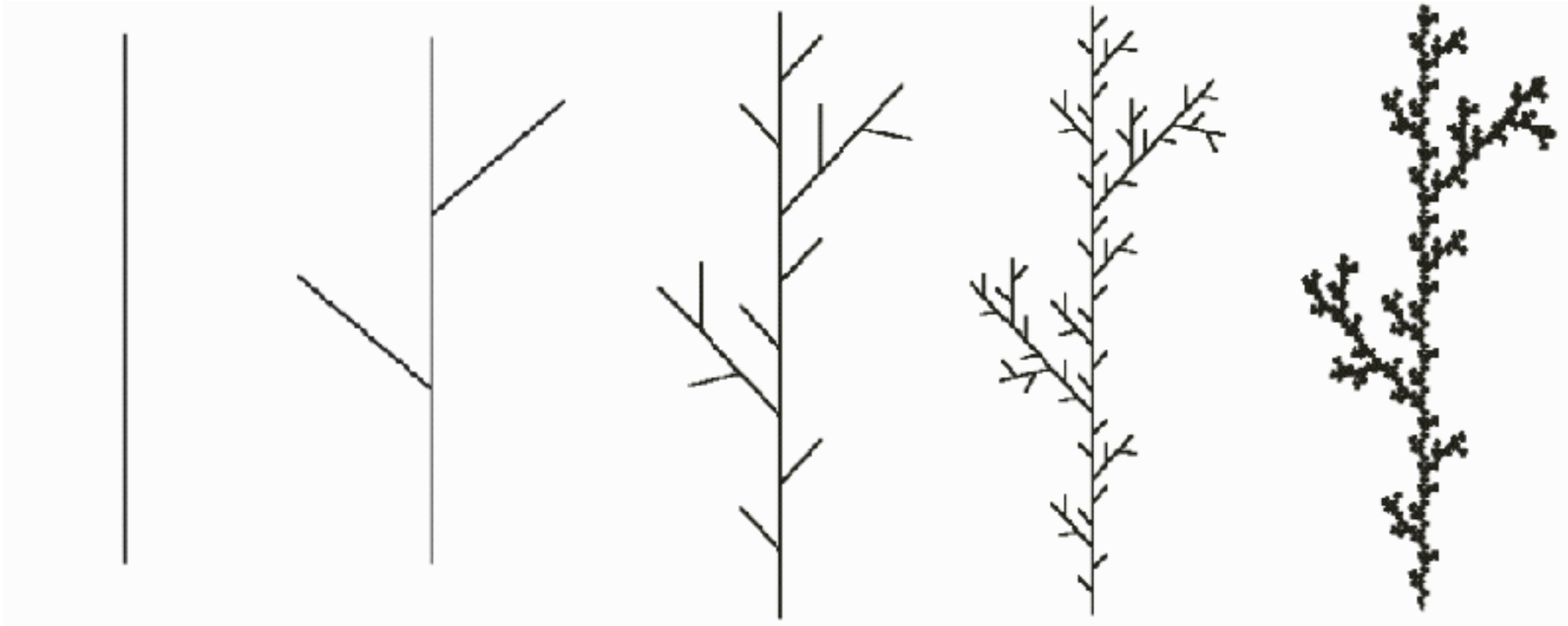
# Recursion

It is a technique for creating figures which are defined by "replacement" rules.



# Recursion in programming

Recursive function is a function that calls itself;

By calling itself more than once a function can produce multiple copies of itself.

# Recursion in programming

The main thing about Recursion, is that

- It sounds simple, but it is complex in practice.
- It is perfect for complex problems, as it splits the problem into simple subproblems.

# Recursion in programming

**Base Case** - can be solved directly,it is pretty trivial.

**Recursive Case**(Inductive - mathematical) - taking a piece of the problem and solving the subproblem recursively, which is identical to the original problem.

# Recursion in JS

**Leave Event** - control statement that allows the function to exit the recursive loop.

# EXAMPLE