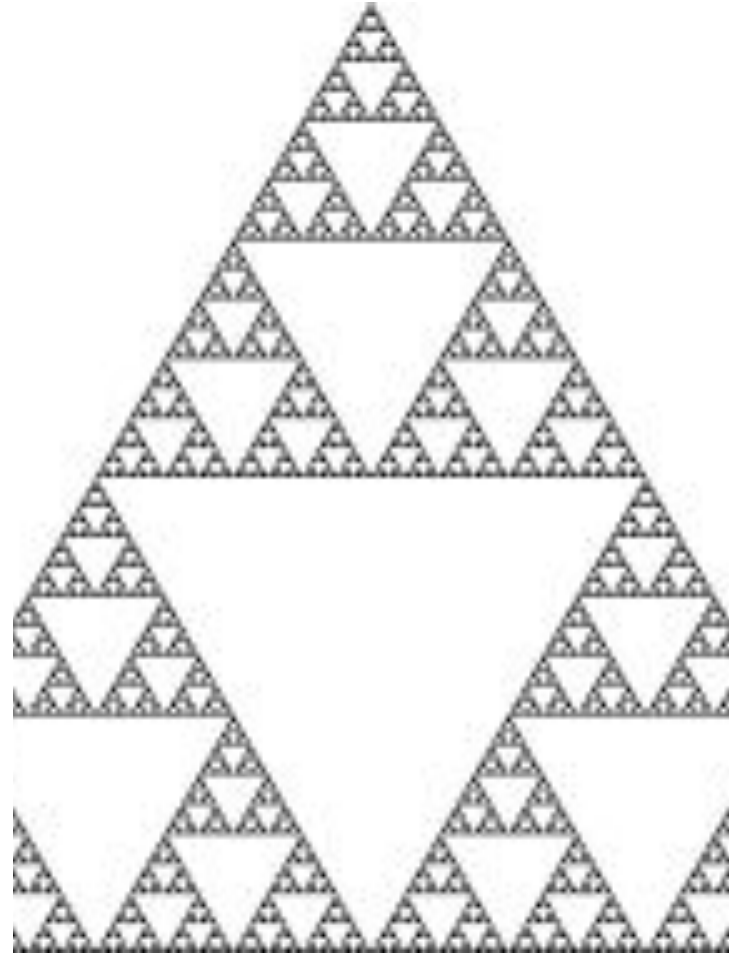# Recursion

Did you mean: *recursion*

Jack Polk
1/8/2018
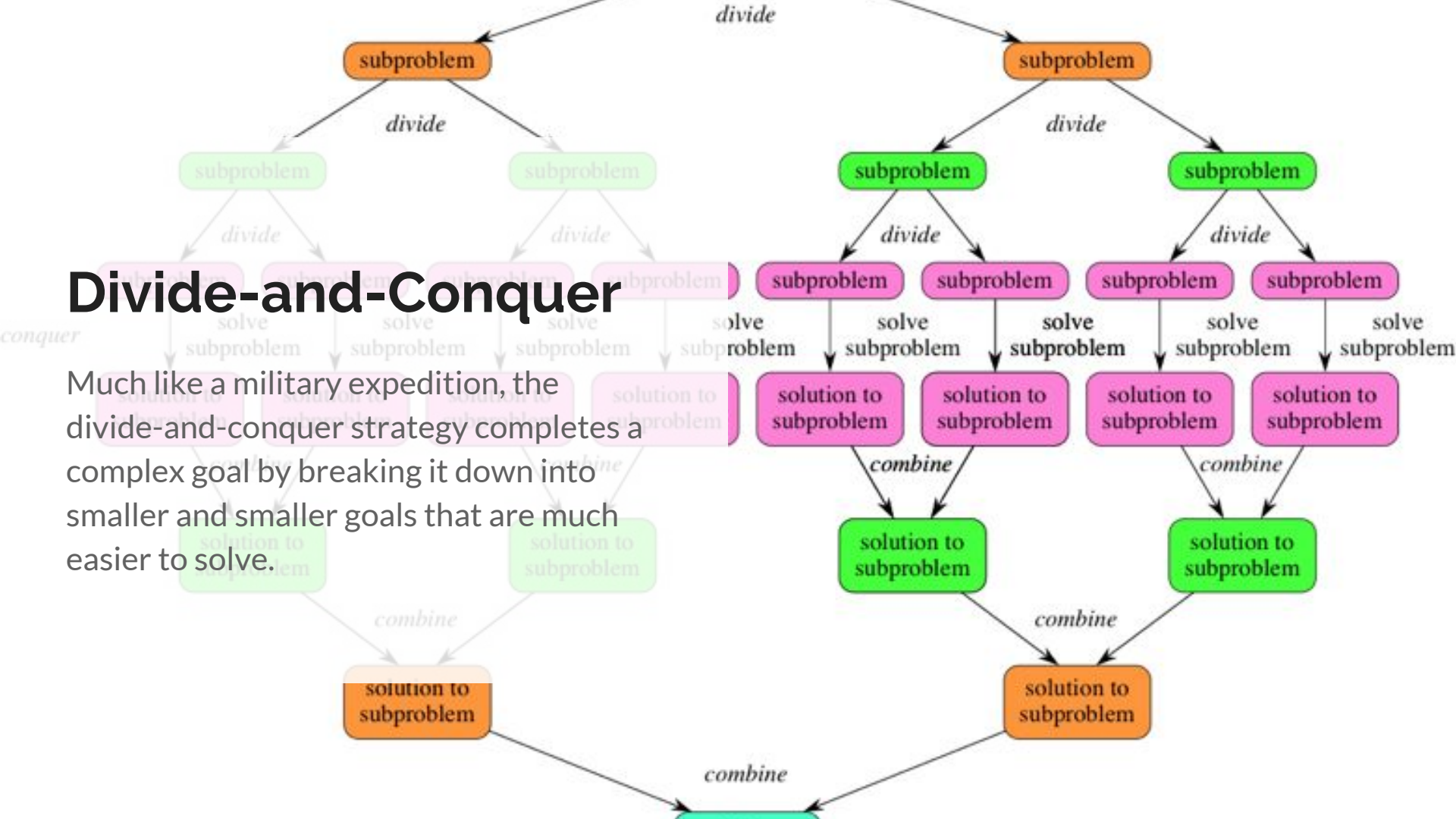APCS A

# What Is Recursion?

**Recursion** can be defined as a process that loops back on itself or is repetitive in its functioning.

This is often used in computer science to solve complex problems using **base cases**. These are the building blocks of more complex problems that can be solved in repetition to complete the parent problem.

# Divide-and-Conquer

Much like a military expedition, the divide-and-conquer strategy completes a complex goal by breaking it down into smaller and smaller goals that are much easier to solve.

# Example

Rather than throw all their might at one location with all their troops, the U.S military chose to spread out their forces into small key locations.

This is very similar to the naming and function of the divide-and-conquer strategy we use in computer science

# S-S-S Strategy

In order to employ our divide-and-conquer strategy, we must first follow the S-S-S strategy:

**S**implify the problem to its base case

**S**ubstitute the given information into the recursive function

**S**olve the final answer from the collected information

# Example

Coming back to our military invasion, we can also use the S-S-S strategy here to accomplish our goal

1. Divide the country into small regions (cities or states) and assign a batallion to each region

2. Create a battle plan for each region: use different plans for different conditions

3. Once all regions have been conquered, consolidate power with all troops in the capital

# Fin
:)