Flood Fill

A recursive algorithm similar to depth-first search

*The problem: How many chambers?*

*Solution: 6 chambers*
main:
for each cell in the cave
  if the cell currently holds air
    choose a new color of water
    spread that water as far as it can reach

spread the water (row, col):
  if cave[row][col] holds air
    put water here
    spread water to the left
    spread water to the right
    spread water up
    spread water down

What are the base cases?
How do we know it doesn’t run forever?