# Assignment 14 - Spreading Fire

## Source

This is a nifty assignment from 2007 proposed by Angela B. Shiflet. Source

## Goals

The purpose of this assignment is to learn to

- Organize data in two-dimensional arrays
- Use data from arrays to control conditional statements
- Practice recursion
- Practice simulation techniques
- Implement probabilities in code

## Programming

### Tasks

- Use loops to populate and update a grid with values that represent trees, empty spaces, and fire.
- Define the behavior of a grid cell that contains a fire, trees, or an empty space.
- Update the color of the grid cell when the values change.
- Continue updating the grid until all trees are burned out or the fire has gone out.
- Try different probabilities to see the different behaviors of fire depending on the location of empty spaces, fire, and trees. For example, try making an X across the grid with empty spaces. Or make a grid with empty spaces around the edges.

### Empty spaces

Empty spaces are represented with a yellow color and will not catch fire.

### Trees

Trees are represented with green and can catch fire if there is a fire in an adjacent cell. However, the condition for catching fire is not only touching fire. There should also be a probability test that determines if it will ignite.

### Fire

After a certain amount of time, a fire should go out and become an empty cell.

## Help

### For C++

NonBlockingGame documentation

### For Python

NonBlockingGame documentation