

Title: Painting Correctly: Modeling the Flood Fill Algorithm

Abstract: The flood fill algorithm is a recursive, stack-based algorithm best known for being used in the paint bucket tool in many graphics editors. We modeled the flood fill algorithm using Forge, a specification language. Using this model, we verified two properties of the flood fill algorithm: first, that any cell that is filled in at completion of the algorithm should be filled in, and second, that any cell that is not filled in at completion of the algorithm should not be filled in.

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