

## Jug Problem

Express the following problem as a search-state problem:

Three jugs are filled with water. There are no measuring markers on any of them. Each can be fully or partially emptied in a drain or another jug. The jugs respectively measure 15, 7, and 3 gallons. The task is to measure out exactly 2 gallons.

Identify:

1. The general description of a state.
2. The initial state.
3. The successor function. For this it is not necessary that you write every possible “state → state” combination, but you should make it clear how one would compute the successor states of any given state.
4. Goal Test

\*\*\* Note, you do not have to provide a solution to the problem!