Water Jug Challenge

OVERVIEW

Build an application that solves the Water Jug Riddle for dynamic inputs (X, Y, Z). The simulation should have a UI to display state changes for each state for each jug (Empty, Full or Partially Full).

You have an X-gallon and a Y-gallon jug that you can fill from a lake. (Assume lake has unlimited amount of water.) By using only an X-gallon and Y-gallon jug (no third jug), measure Z gallons of water.

GOALS

1. Measure Z gallons of water **in the most efficient** way.
2. Build a UI where a user can enter any input for X, Y, Z and see the solution.
3. If no solution, display "No Solution".

LIMITATIONS

- Actions allowed: Fill, Empty, Transfer.

DELIVERABLES

The application source code should be on Github and a link should be provided. If this is not an option, a public link to the application source code or a zip archive is also acceptable.

Example:

Bucket x: 2

Bucket Y: 10

Amount wanted Z: 4

This is the best solution:

Bucket x	Bucket y	Explanation
2	0	Fill bucket x
0	2	Transfer bucket x to bucket y
2	2	Fill bucket x
0	4	Transfer bucket x to bucket y. **Solved**

Worst Solution

Bucket x	Bucket y	Explanation
0	10	Fill bucket y
2	8	Transfer bucket y to bucket x
0	8	Dump bucket x
2	6	Transfer bucket y to bucket x
0	6	Dumb bucket x
2	4	Transfer bucket y to bucket x. **SOLVED**