

## Artificial intelligence.

you are given two jugs, 4-liter one and a 3-liter one. Neither has any measuring marker on it. There is a pump that can be used to fill the jugs with water. How can you get exactly 2 liters of water into 4-liter jug? Implement using DFS.

Solution:

Fill the 4 liter jug and empty it to 3 liter jug. until it becomes full.

Now 4 liter jug has 1 liter left.

Now empty 3 liter jug and pour 1 liter of 4 liter jug into it.

Again fill 4 liter jug and pour it into 3 liter jug until it becomes full (that is 2 liter).

Now 4 liter jug is left with 2 liters. which is required

Solution.

x → 4 liter  
y → 3 liter

$(0,0) \rightarrow (4,0) \rightarrow (1,3) \rightarrow (0,3) \rightarrow (0,1) \rightarrow (4,1) \rightarrow (2,3)$

operations involved

Fill a jug

empty a jug

pour water from source to destination until one of is empty or full.

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