**PAILAB-TASK3**

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**SECTION**: BSAIM-F23-005

**WaterJugProblem**

This code solve the Water Jug Problem using depth first search method Imagine we have two jugs: jug1 can hold 4 liters of water and jug2 hold 3liters of water. We will measure exactly 2 liters using these jugs starts with both jugs empty stack is used to explore various possible actions, such as filling, emptying, and transferring water between the jugs. It keeps track of the steps to avoid repeating actions. We will start by filling any one jug, take the 3 liter jug fill it and then pour it into the 4 liter jug, then we will 3 liter jug again and pour into the 4 liter jug so the 4 liter jug is filled so the state become the 3, 4 and then we will empty the 4 liter jug and pour the 3 liter jug into the 4 liter jug and then again we fill the 3 liter jug and pour it into the 4 liter jug and then the 4 liter jug is full and the 3 liter jug contains exactly 2 liters. This is how we reach, if no solution found then we will print no solution otherwise we will print solution found

**Output**

