

This is the fundamental challenge faced in Artificial Intelligence called the “WaterJug” Problem

Here, the system is provided with 2 jugs with variable capacity and provided with a desired amount of water required. The system needs to figure out how to fill and use the jugs in such a way such that by the end of the process, one of the Jugs is left with the exact amount of water desired.

For example, In a sample input of

Jug1 capacity – 3L

Jug2 capacity – 4L

Desired amount – 1L

The solution would be to fill Jug2 Completely,

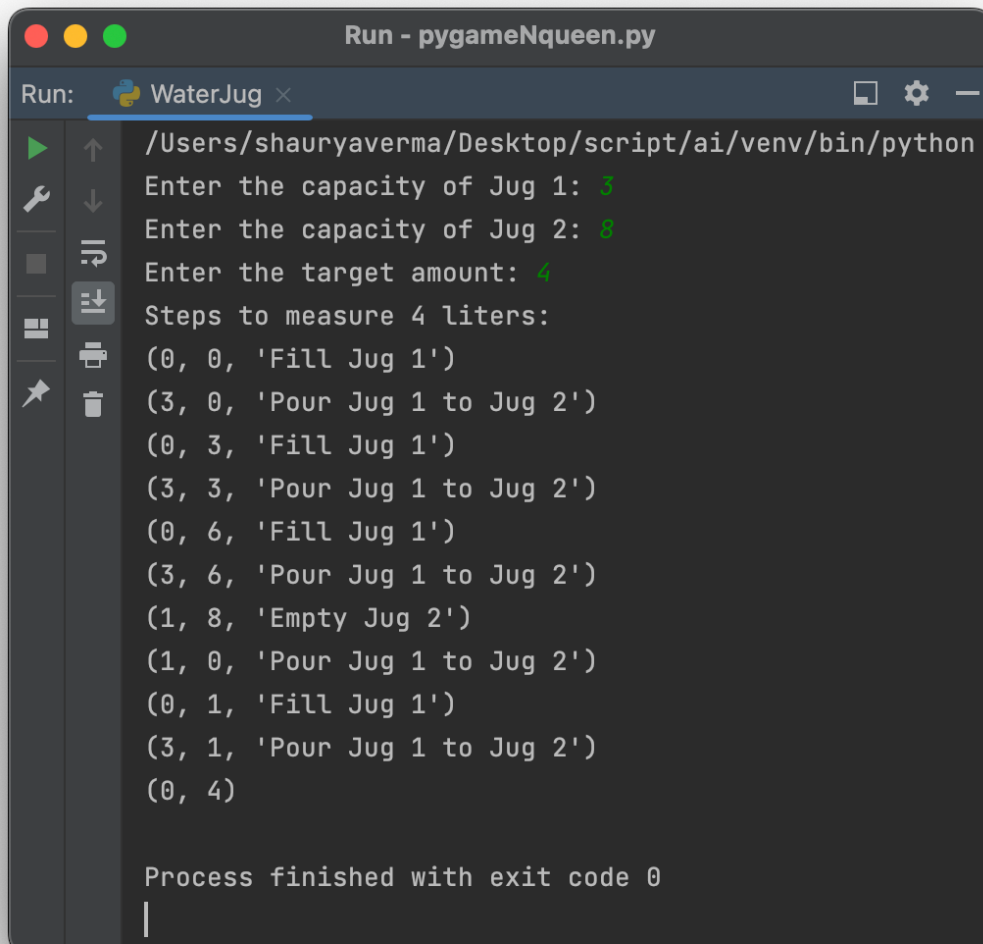
(4L)

Pour it all into Jug1.

(4L -> 3L = 1L)

Jug2 will be left with 1L, solution found.

(1L)



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Run - pygameNQueen.py
Run: WaterJug x
/Users/shauryaverma/Desktop/script/ai/venv/bin/python
Enter the capacity of Jug 1: 3
Enter the capacity of Jug 2: 4
Enter the target amount: 4
Steps to measure 4 liters:
(0, 0, 'Fill Jug 1')
(3, 0, 'Pour Jug 1 to Jug 2')
(0, 3, 'Fill Jug 1')
(3, 3, 'Pour Jug 1 to Jug 2')
(0, 6, 'Fill Jug 1')
(3, 6, 'Pour Jug 1 to Jug 2')
(1, 8, 'Empty Jug 2')
(1, 0, 'Pour Jug 1 to Jug 2')
(0, 1, 'Fill Jug 1')
(3, 1, 'Pour Jug 1 to Jug 2')
(0, 4)

Process finished with exit code 0
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Happy Coding!