Abstract

The Water Jug problem is a famous problem in Artificial Intelligence, Problem solving, Recreational, Computer Programming and Psychology. The solution of the problem mainly based on heuristic approach or some search methods such as Breadth First Search (BFS) or Depth First Search (DFS) or Diophantine approach. In BFS, we will be certainly reaching the goal but time taken to reach the goal will be too much. In the same manner in DFS also time taken to reach the goal is not predictable. In contrast to this, in the Diophantine approach \((m x + n y = d)\) normally we will be assuming the value of \(x\) and \(y\), so it takes time to find the solution. In this paper, a new arithmetic approach, Extended Euclidean approach which is used to solve the problem, it is simple and suitable for manual calculation or programming language implementation. Analysis of the solution involves various steps and some illustrative examples
An Alternative Arithmetic Approach to the Water Jugs Problem

are provided.

References


Index Terms

Computer Science

Applied Mathematics

Keywords

Water Jugs Problem  Artificial Intelligence  Problem Solving  Diophantine Approach
Extended Euclidean Approach.