

**CS520 Spring 2006**  
**Assignment 2 : February 23, 2006**

1. Consider the water-jug puzzle. We are given a 3-liter jug, named **three**, and a 4-liter jug named **four**. Initially, **three** and **four** are empty. Either jug can be filled from the tap, and we can discard water from either jug down a drain. Water may also be poured from one jug into the other. There is no additional measuring device. We want to find a set of operations that will leave precisely 2 liters of water in **Four**.

Formulate this as a search problem. Show how both depth-first search and breadth-first search work on the problem.

2. Problem 4.1 on page 134 of Russell and Norvig.
3. Problem 5.4 on page 158 of Russell and Norvig.
4. Problem 5.6 on page 159 of Russell and Norvig.
5. Problem 5.8 on page 159 of Russell and Norvig.