CS-661 AI Midterm Exam

0. What is your name?

1. Explain the following:

   A Turing Test

   B Gödel's Theorem

   C NP completeness

   D Travelling Saleman Problem

   E Blocks World (SHRDLU)

   F heuristic function

   G A∗ Search

2. Contrast breadth-first and depth-first search. Talk about completeness, optimality, memory and time complexity.

3. In the missionaries and cannibals problem three missionaries and three cannibals want to cross a lake. They have a boat which can only carry one or two people at a time, and the missionaries never want to be outnumbered by cannibals on either side of the lake.

   A What are the initial and goal states?

   B What are the expansion operators?

   C What would be a sensible cost function?

   D What states are obtained by breadth first search at depth one?

   E ... at depth two?

   F ... at depth three?