

CS4104 Spring 2007 Homework Assignment 1
Due at 11:00pm on Tuesday, January 23
25 Points

1. [15 points] Given a problem, consider the following process: Give the problem to a clever friend to solve.

- (a) Is this an algorithm?
- (b) If not, is it an algorithm if we can apply it recursively?
- (c) Is it optimal?

2. [10 points] Solve the following cryptogram by assigning a digit to each letter such that the solution is a legal addition problem. Only one letter may take on the value of any given digit. If a given letter appears more than once, it must be replaced by the same digit each time. Be sure to carefully explain how you got your answer.

$$\begin{array}{rcccc} & L & E & T & S \\ + & W & A & V & E \\ \hline L & A & T & E & R \end{array}$$