Homework Assignment #0

Note

This assignment is due 2:20PM Thursday, September 23, 2010. Please write or type your answers on A4 (or similar size) paper. The purpose of this homework is for you to get warmed up and will not be counted as part of your grade of this course. You may discuss the problems with others, but copying answers is strictly forbidden.

The Problem

Consider the "untangling line segments" problem discussed in class. Your task is to refine the rank function given in class so that it maps program states to *non-negative integers*. Try to be precise (using mathematical concepts and notations). You must show in sufficient details that the execution of an untangling operation, if enabled, will decrease the value of the function by at least one.