Illinois Institute of Technology
Department of Computer Science

Homework Assignment 9

CS 430 Introduction to Algorithms
Spring Semester, 2018

Due: Sunday, April 22

1. Prove inequality (3) on page 1 of the April 18 lecture notes with the analysis of the nearest-neighbor heuristic for the TSP. (*Hint*: For n even it is a special case of inequality (2). What do you do for odd n?)

2. One criticism of the nearest-neighbor TSP heuristic is that the last edge added (from the last city back to the starting city) can be very long. How much effect can that last edge have on the ratio $|NN|/|OPT|$?