

# Homework 13

December 2, 2019

## Deadline

Due: December 9, 2019, 23:59. Good luck!

## Problem 1

Design the following 2-tape TM to accept the language of all strings of 0's and 1's with an equal number of each. The first tape contains the input, and is scanned from left to right. The second tape is used to store the excess of 0's over 1's, or vice-versa, in the part of input seen so far. Specify the states, transitions, and the intuitive purpose of each state.