

Homework – Turing Machines

Due: May 3, 2019

Write a Turing machine program that takes as input a number in binary form (such as 1110010) and finishes after it has subtracted 1 from it. The machine starts with the head at the beginning of the string.

Hint: Your machine moves to the right until it hits the first blank. It then moves left. If the symbol encountered is a 1, it changes the symbol to 0 and stops. Otherwise, it needs to carry. It replaces the symbol with 1 and moves to the left. It finishes until it hits a 1, changes the 1 to 0 and enters the accepting state. If it hits a blank then we had a string of zeroes only and we can stop in the rejecting state.

Deliverables:

The programs in printed form.

A screen shot of a sample run on morphett.info/turing. You should show the screen before and after your program runs.