CSE 4083/5210 Formal Languages and Automata
Week 8 Assignment
Due: Thu, 9 July 2020

Reading. Read Chapter 11: “A Hierarchy of Formal Languages and Automata” and Section 12.1 “Some Problems That Cannot Be Solved by Turing Machines.” We conclude the course with the proof that the halting problem is undecidable. There are several pre-recorded lectures pertaining to this assignment. They can be found following the links on the grid of notes, or on Canvas under “Panoto Recording.” Be sure to view the video on the halting problem by Udi Aharoni.

Tutorial/Office Hours For help in doing the homework, please join one of the Wednesday Google Meet sessions. You may join at 2pm, 2:30, 3pm, or 3:30 EST on Wed, 8 July 2020. The link is on Canvas.

Assignment. Do some small number of the following exercises.

- Section 11.1: Problems 3, 4, 5–10, 11.
- Section 11.2: Problems 1, 3, 5.
- Section 11.3: Problems 2abcde, 3ab.
- Section 11.4: Problems 1.
- Section 12.1: Problems 2, 3, 5.

Submission. Write up the solutions. You may use pen and paper, plain text, or \LaTeX. A single clear PDF document is preferred and that seems to be what most students are producing, so that is working out well. (Make sure scans of handwriting come out with enough contrast.) Submit it on Canvas by the end of the day Thu, 9 July 2020. (Actually anytime before 8am EST Friday is OK, but no later.)

Questions. If you have questions about how to do the problems, attend one of Google Meet sessions on Wed, 8 July 2020. You are welcome to send me e-mail: ryan@fit.edu.

Assessment. Ask questions on Wednesday (or by e-mail). Be prepared with answers on Friday.

In small groups on-line, you will present an occasional solution. Ultimately the written proofs, your choice of exercises, and your participation in answering and asking questions, will determine your course grade.