CS510 Fall 2021 Assignment #1

Exercises are from the textbook - Michael Sipser, Introduction to the Theory of Computation, Third Edition, Cengage Learning, (ISBN-13: 978-1133187790).

Use JFLAP software to create and test all the automata from the assignment. Save all the automata that you create as JFLAP files (.jff files). Names of the automata should start with the corresponding exercise number (e.g., 1.4foddNumber.jff)
Note: JFLAP uses λ instead of ε in transitions for NFA.

1) a) Exercise 0.3
   b) Exercise 0.4
   c) Exercise 0.5
2) Exercise 0.11(a)(b) You have to use mathematical induction.
3) Exercise 1.4 (g) (Note: you will have 3 automata here)
4) Exercise 1.6 (c), (f), (g), (i) (Note: one automaton for each part (c, f, g, i)) Note: in Exercise 1.6(i) positions start with position 1 (not 0). That is, string 101 is accepted
5) Exercise 1.8 (b)
6) Exercise 1.9 (a)
7) Exercise 1.16 (b) Use JFLAP. You may read Converting a NFA to a DFA tutorial first.

What to submit:

1. Type your answers. Use JFLAP software to create and test all the automata from the assignment. Save automata as images and insert into your answers.
2. Save all the automata from this assignment as JFLAP files (.jff files), zip them together in one zip file.
3. Submit 2 files on Canvas:
   1. your .zip file and
   2. your answers (including images of automata) as a pdf file.

   Note: you have to submit pdf with your answers separately. Do not include it in your zip file.