**CS250 Lab 1 – Deterministic Finite Automata**

**Objectives:** In this lab you will learn how to

- use JFLAP
- recognize the languages defined by DFAs
- Construct DFAs to recognize specific languages
- begin analyzing the properties of regular languages

Download the lab1 files and start JFLAP. JFLAP comes with easy to follow Help instructions and the is a JFLAP tutorial. Once it is running, select the Finite Automaton button to bring up the FA editor. Open the file ex1.1. You may execute this DFA in several ways. Test out the step by state, fast run, and multiple run options.

**Assignment 1**:
Clearly and succinctly describe the language that is accepted by the DFA in ex1.1

You can open a new editor window and construct your own DFA. There are tools for creating states, transitions, and deleting them. A right click on a state will allow you to select it as an initial and/or final state.

**Assignment 2**:
Build and thoroughly test DFAs for the exercises 4a,b,d, 11a,b,c on pp48-49 of your text.

**Assignment 3**:
Any language that can be accepted by a DFA is called a **regular language**. Show that if $L$ is a regular language then $L - \{\lambda\}$ is regular as well. You can do this by describing how you would modify a DFA which accepts $L$ so that you get another DFA which accepts $L - \{\lambda\}$.

Submit your files in goucherLearn for grading.