Automata, Computability and Formal Languages — Spring 2020
CS 3350 — L. Longpré

Class Review, 2/18/2020

- Terminology
- Build a finite automaton or NFA for a given language
- Finite automata and Nondeterministic finite automata in diagram version vs formal version
- Simulate automata on given strings
- Build a finite automaton that accepts the union or the intersection of the languages accepted by 2 finite automata
- Build an NFA that accepts the union or concatenation of the languages accepted by two NFAs
- Build an NFA that accepts the Kleene * of the language accepted by a NFA
- Use the general algorithm to transform a NFA into a DFA accepting the same language
- Build a regular expression for a language
- Describe the language generated by a regular expression
- Convert a regular expression into an NFA
- Generalized nondeterministic finite automata (GNFA)
- Use GNFA as intermediate steps to build a regular expression that generates exactly the language accepted by a DFA or a NFA
- Examples of non regular languages
- Show a language is not regular using closure properties or the pumping lemma