Formal Methods

- Basic proof techniques.
- Alphabet, Languages, Operations on languages (Union, Concatenation, Star).
- Regular Languages -- Designing DFAs and NFAs corresponds to regular languages.
- Equivalence between NFA and DFA.
- Set of regular languages is closed under union, concatenation, and star.
- Regular expressions (R.E), GNFA.
- Converting DFA to GNFA. Equivalence between R.Es and DFAs/ Regular Languages.
- Pumping lemma -- a technique to prove that some languages are not regular

- Proof by ***Construction, Contradiction, Induction.***
- Finite Automata
- *(Regular)* Language
- Proof of Union - Languages
- DFA vs NFA
- NFA to DFA
- Regular Expressions - start **->** concat **->** union
- GNFA+ 3 rules
- DFA -> GNFA -> Regular Expression
- Non-regular Languages