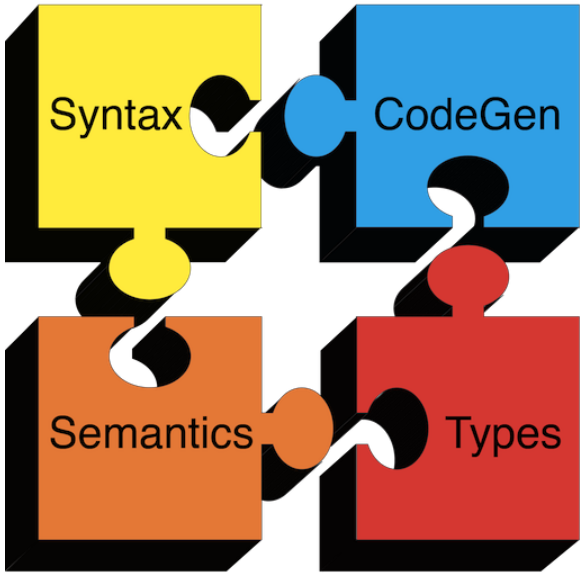
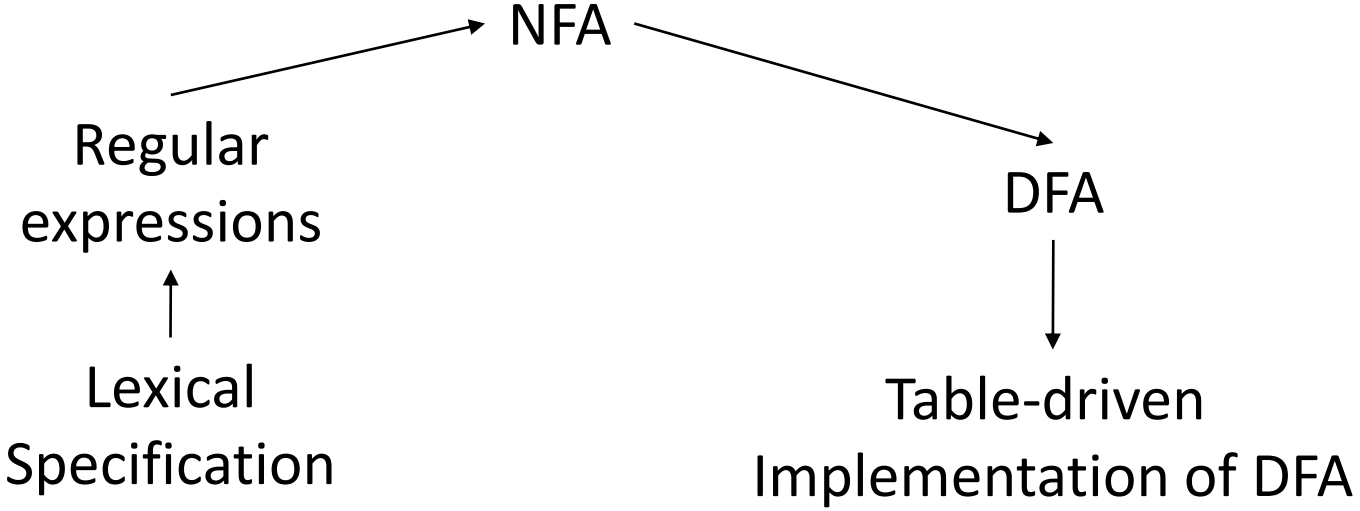


Compilers

Implementing Finite Automata

Alex Aiken

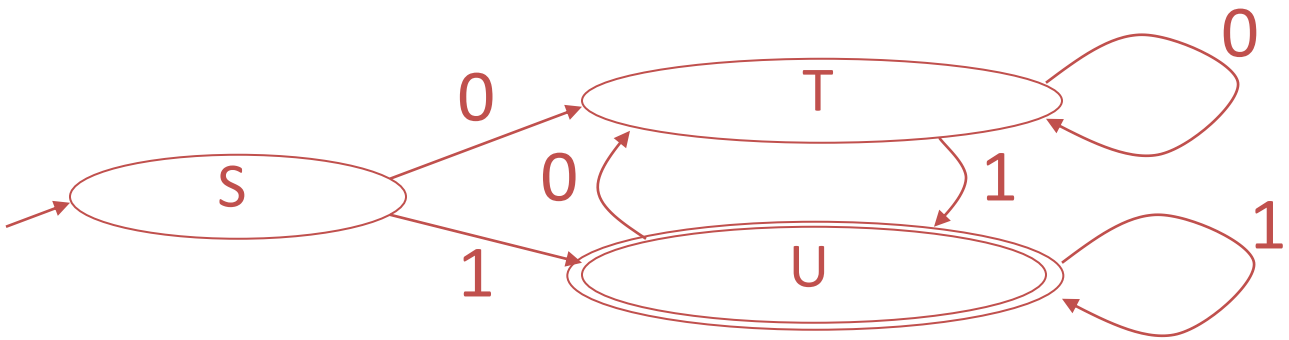
Implementing FA



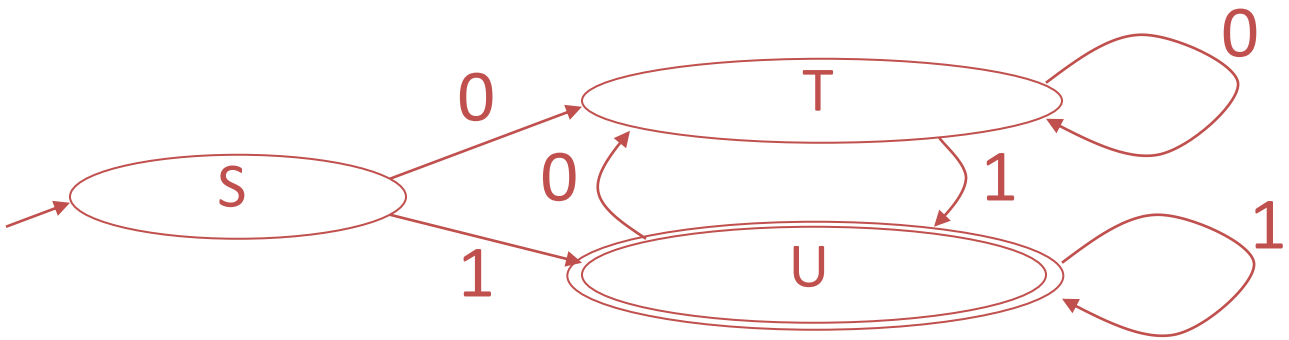
Implementing FA

- A DFA can be implemented by a 2D table T
  - One dimension is states
  - Other dimension is input symbol
  - For every transition $S_i \rightarrow^a S_k$ define T[i,a] = k

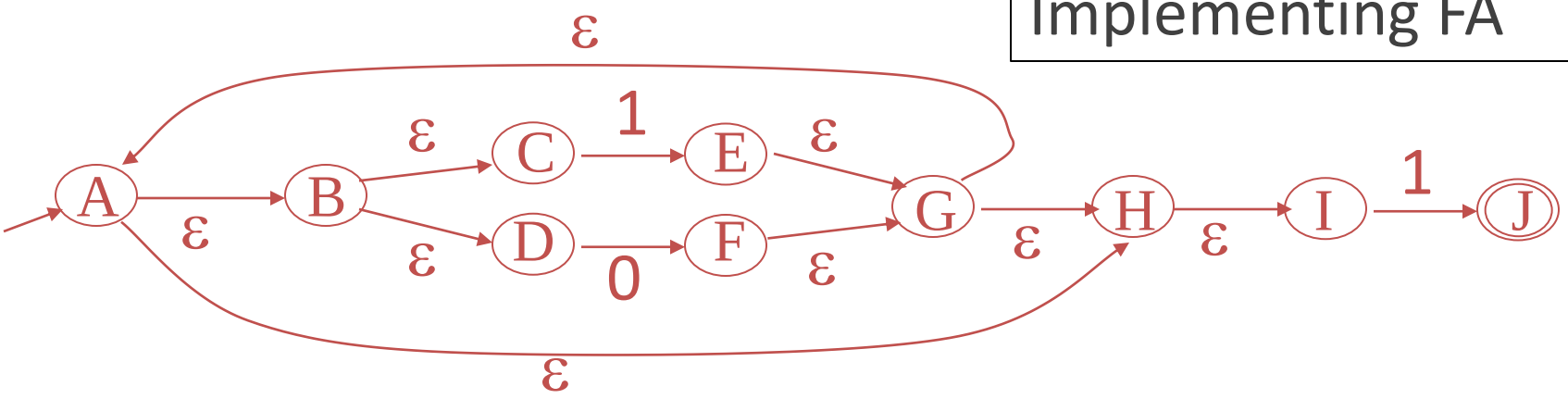
Implementing FA



Implementing FA



Implementing FA



Implementing FA

- NFA -> DFA conversion is key

- Tools trade between speed and space