Sipser: Chapter 3.2
I just want to go home. Please.

  67% on Rotten Tomatoes
\{ \emptyset, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}, \{1, 2, 3\} \}
The diagram represents a finite state machine (FSM) with two states: $q_0$ and $q_1$. The transitions are as follows:

- From $q_0$, on input 0, the next state is $q_1$.
- From $q_0$, on input 1, the next state is $q_0$.
- From $q_1$, on input 0, the next state is $q_0$.
- From $q_1$, on input 1, the next state is $q_1$. 
Finite State Transducer

Diagram:

- State $q_0$:
  - Transition on 0 to $a$
  - Transition on 1 to $b$

- State $q_1$:
  - Transition on 0 to $a$
  - Transition on 1 to $b$
Finite State Transducer
Finite State Transducer
Finite State Transducer
Finite State Transducer
Input Tape: 1 1 1 0 1
Simulation Tape: 1 1 1 0 1
Address Tape: 1 2 2 1
Input Tape: 1 1 1 0 1
Simulation Tape: 1 1 1 0 1 # q₀ 1 1 1 0 1 # 1 q₁ 1 1 0 1 # ...
Address Tape: 1 2 3 1
Unrecognizable Languages

Recognizable Languages

Decidable Languages
Unrecognizable Languages

Recognizable Languages

Decidable Languages
Exponential = $2^n$

Polynomial = $n^2$
Exponential = $k^n$

Polynomial = $n^k$
Polynomial

Exponential
Polynomial

Nondeterministic Polynomial
Polynomial

Nondeterministic Polynomial
Quiz 4