B1 = {ak= k is a multiple of 1}= {a0, a1, a2}

Use graph notation for proofs

Finite state transducer

Mk: for calculating modulo /of k
Sigma = {0,1,2,...9}
If mk ends at state q1, then the input of % k is i

Proof by induction
        Prove base case
        Induction step
                Goal is to show if its true for a = k, then its true for n = k+1

Double statements need cartisen product FSM

Closure
        A set of objects is closed under an operation if applying that operations to members of that set always
          results in a members of that set
        Regular languages are closed under the three regular operations we just introduced (union,
          concatenation, star)
        Can you look ahead to see why we care
        We can build FA to recognize regular expression
Closure of union
        Theorem 1.25 The class of regular languages is closed under the union operation.

A1 U A2
        M1 recognize A1
        M2 recognize A2
        We build m that recognizes A1xA2
        = (Q1xQ2, epsilon, delta: $((q_i,q_j),a) = (delta_1(q_i, a), delta_2(q_i,a))$

M1 recognize A1
M2 recognize A2

Use epsilon to branch to both