CS 2400  today
- announcement.
- proofs
  (why, how, common problems)
- some basic tools
  (sets, functions)
What is a proof?

A sequence of statements, starting with facts everyone agrees with (axioms), ending with something new, each step "obvious" based on what came before.

Argument
why proofs in CS?

- programming, programs are proofs
- theory about existence of programs
- bull-puckey detection.
\[ f(x) = 1 \]

\[ f(x) \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \]

\[ i = 5, \quad j = 1, \quad k = 5 \]

\[ 1 = f(i,j) + f(i,j') = 2 \]