Strong Induction

Points:

- Helpful to always state what you want to prove as a boolean statement, $P(n)$, that depends on a parameter n
- Explicitly check the base cases
- Explicitly write down your Inductive Hypothesis: For example, "Our Inductive Hypothesis is that $P(1) \wedge P(2) \ldots \wedge P(N)$ is true for some arbitrary $N \geq n_1$" (where n_1 is the largest base case you checked)
- Make sure your proof uses the information in your problem (e.g., if you are given a recursively defined function, use the its recursive definition)
- Make sure you show how you use the Inductive Hypothesis
- Make sure you justify every step (unless it is only arithmetic)