Proving Languages Not to Be Regular (4.1)

- What is not regular?

- “The Pumping Lemma” for Regular Languages

**Theorem.** Let $L$ be a regular language. Then there exists a constant $n$ so that every string $w$ in $L$ with $|w| \geq n$ can be broken into three strings: $w = xyz$, and:

1. 

2. 

3. 

“Pumping”??

*The Pigeonhole Principle*
Proof of the Pumping Lemma for Regular Languages.

• Using the Pumping Lemma for Regular Languages