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