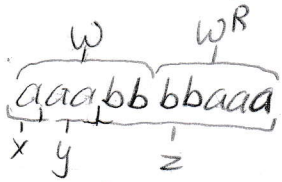
- In class Exercise

- Prove that $L = \{ ww^R, w \in \{a,b\}^* \}$ is NOT regular.
  * All strings are of even length and 2nd half of string is a mirror (reverse) of the 1st half.

- For the language, the 1st half is $w = xy$ and the 2nd half $w^R = z$
- Using an example string of 

with $m = 10$

$|xy| \leq 10 \Rightarrow |xy| = 3$ ✓

$|y| \geq 1 \Rightarrow |y| = 2$ ✓

- If $i = 2$ then xy^iz would be $a(aa)^2bbbbaaa$,
- this would result in a string with more a's in w than in w^R. This is a contradiction, Thus L is not regular.