Apply the pumping lemma for regular languages to show that the following languages are not regular:

1. We use $\Sigma_1 = \{a, b, c\}$ and
   
   \[ L_1 = \{a^n b^m c^{n+m} \mid m, n \in \text{Nat}\} \]

   I.e. $\text{aabbbcccc} \in L_1$ but $\text{aabbcc} \notin L_1$

2. We consider the language of repetitions over $\Sigma_2 = \{0, 1\}$ that is

   \[ L_2 = \{ww \mid w \in \Sigma_2^*\} \]

   I.e. $\text{011011} \in L_2$ (using $w = 011$) but $\text{01010} \notin L_2$ (because it cannot be read as a repetition).

   What happens if we consider $\Sigma = \{1\}$ instead?