Residues

Sep 2024

1. Show that the language $L = \{(\mathbf{ab})^q \mathbf{c}^p \mid q > p\}$ has inifinitely many residues and is therefore not regular.

2. Let $\Sigma = \{\mathbf{a}, \mathbf{b}\}$. Consider the language L of strings where the number of $\mathbf{a}$'s is a multiple of 3.

   (a) List the residues of L (you may describe residues informally).

   (b) Using the residues, construct the minimal automaton that accepts L.