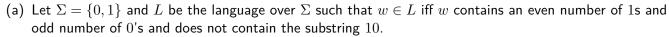# CSE 390z: Mathematics for Computation Workshop

QuickCheck: DFAs and NFAs (due Monday, December 1)

Please submit a response to the following questions on Gradescope. We do not grade on accuracy, so please submit your best attempt. You may either typeset your responses or hand-write them. Note that hand-written solutions must be legible to be graded.

We have created **this template** if you choose to typeset with Latex. **This guide** has specific information about scanning and uploading pdf files to Gradescope.

0. Constructing DFAs and NFAs

(a) Let $\Sigma = \{0, 1\}$ and L be the language over Σ such that $w \in L$ iff w contains an even number of 1s and odd number of 0's and does not contain the substring 10.

Give a DFA to accept strings in L.

(b) Let $\Sigma = \{0, 1, 3, 9\}$ and L be the language over Σ such that $w \in L$ iff The string "311" is a substring of w.

Give an NFA to accept strings in L.

1. Video Solution

Watch **this** solution video **after** making an initial attempt. Then, answer the following questions.

(a) What is one thing you took away from the video solution?

(b) **Optional:** How did you like the Imposter Syndrome Workshop? Any feedback for future quarters?