

# CSCI 340 — Homework 11

Dr. Schwartz

1. VERYEQUAL is the language ( $\Sigma = \{a b c\}$ ) as all strings that have as many total  $a$ 's as total  $b$ 's as total  $c$ 's
  - Draw a TM that accepts VERYEQUAL
  - Draw a PM that accepts VERYEQUAL
  - Draw a 3PDA that accepts VERYEQUAL
  - Draw a 2PDA that accepts VERYEQUAL
2. Draw a 2PDA that accepts EVEN-EVEN and keeps at most two letters in its STACKs
3. Show that each of the following languages is recursive by finding a TM that accepts them and crashes on strings in their complement
  - EVEN-EVEN
  - EQUAL
4. Decode the following words from CWL into their corresponding TMs and determine which are in ALAN and which are in MATHISON
  - *abaabbbbab*
  - *abaaabaaabbaaabaababbbb*
  - *abaaabaaabaaabaababbab*