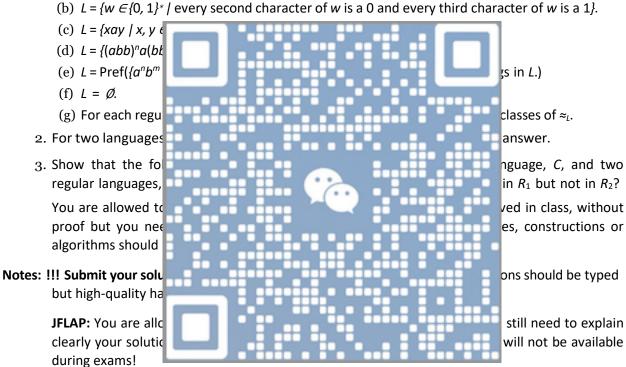
## CS3331 – Assignment 2 due Oct. 24, 2024

## 2-day no-penalty extension until: Oct. 26, 11:59pm<sup>1</sup>

- 1. For each of the following languages, L, prove whether L is (i) regular, (ii) context-free but not regular, or (iii) not context-free:
  - (a)  $L = \{xyx^R \mid x, y \in \{0, 1\}^+\}.$



LLMs: You are allowed to use LLMs (Large Language Models), such as ChatGPT, but, again, they will not be available during exams.

LATEX: For those interested, the best program for scientific writing is LATEX. It is far superior to all the other programs, it is free, and you can start using it in minutes; here is an introduction: https://tobi.oetiker.ch/lshort/lshort.pdf. also available online https://www.overleaf.com/.

<sup>&</sup>lt;sup>1</sup>No extension can be given, to be able to post the solutions before the midterm exam.