## University of Nevada, Las Vegas Computer Science 456/656 Spring 2025 Assignment 8: Due Saturday May 3, 2025, 11:59 PM

Name:\_\_\_\_\_

You are permitted to work in groups, get help from others, read books, and use the internet. If you need help uploading your assignment to canvas, ask our teaching assistant, Louis DuMontet.

- 1. Work Exercise 1 on Handout/reglrNC.pdf.
- 2. Work Exercises 1, 2, 3, 4 on Handout/indSS.pdf.
- 3. Give a definition of the class  $\mathcal{P}$ -space.
- 4. Give a definition of the class  $\mathcal{P}$ -SPACE-complete.
- 5. Let  $L = \{a^n b^n : n \ge 0\}$ . Prove that L is  $\mathcal{NC}$ . (Do not cite the fact that all CF languages are  $\mathcal{NC}$ .)