

**CMPSC 464**

**Fall 2022**

**Assignment 4**

**Nov/03/2022**

**Time Limit: Due on Nov 17th**

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

This assignment contains 9 pages (including this cover page) and 7 questions.

Instructions for TEX : If you are writing down the solution in tex, comment out the empty-box and write your solution in Tex. Make sure your solution does not overflow (meaning it should stick to a single page)

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1. (15 points) Exercise 8.4 (p.g. 357)

(a) (5 points) Union

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(b) (5 points) Concatenation

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(c) (5 points) Star

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2. (15 points) Exercise 8.11 (p.g. 358)

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3. (10 points) Show that PALINDROME is in L

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4. (15 points) Exercise 8.22 part (a) (p.g. 359)

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5. (10 points) Exercise 8.22 part (b) (p.g. 359) (Hint: You may assume previous result)

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6. (20 points) Exercise 8.23 (p.g. 360) (Hint : How to do DFS on a tree using Logspace?)

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7. (15 points) Exercise 8.25 (p.g. 360)

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