

Computer Science Notes

Spring 2024

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Draft February 5, 2024

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Preface

These are my exam review notes taken throughout the Spring semester.

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Part I

Computer Networks

Exam 1

Part II

Advanced Algorithms

Exam 1

Assignment 1

Assignment 2

- 3.1 Are either $\lceil \lg n \rceil!$ or $\lceil \lg \lg n \rceil!$ polynomially bounded?
- 3.2 Use induction to prove $F_i = \frac{\phi^i - \hat{\phi}^i}{\sqrt{5}}$; where $F_i = F_{i-2} + F_{i-1}$, and ϕ is the golden ratio $\frac{1+\sqrt{5}}{2}$.
- 3.3 Show that $k \lg k = \Theta(n)$ implies $k = \Theta\left(\frac{n}{\lg n}\right)$.
- 3.4 Are either 2^{n+1} or 2^{2n} big $O(2^n)$?
- 3.5 For each pair of functions , indicate whether is. Assume $k \geq 1$, $\epsilon > 0$, $c > 1$ are constants.
- 3.6

Part III

Software Engineering

Exam 1

Part IV

Operating Systems

Exam 1

