CS/IS 130 - INTRODUCTION TO ALGORITHMS
Topics for Final Review

Chapters

- Input/Output with Text Files (Chapter 4)
- Arrays, Linear Algorithms (Searching, Sum/Avg, Find-Max, Find-Min)
- Arrays, Quadratic and Linearithmic/Quasilinear Algorithms (Sorting) (Chapter 7)
- Dynamic Arrays, ArrayList Class (Chapter 7)
- Text Processing (Chapter 9)
- Recursive Algorithms (Chapter 16)

Text Processing and Wrapper Classes (Chapter 9)

- Wrapper Classes, Autoboxing and Unboxing
- Character and String Methods, Conversion Methods
- Searching and Extracting Substrings
- The StringBuilder Class
- Tokens and Tokenization, StringTokenizer Class
- Conversion and Parsing Methods
- StringBuilder Class
- Working with Binary, Hexadecimal, and Octal Representation of Numbers
- MIN_VALUE and MAX_VALUE Constants

Recursion (Chapter 16 – Recursion)

- How to solve problems with recursion
- Two rules for writing recursive algorithms
- Recursive array sorting and array searching methods
- Towers of Hanoi problem
- Runtime execution stack during recursion
- StackOverflowError

Algorithms

- Finding total, average, minimum, and maximum
- Array Sorting
- Searching in Arrays
- Recursion
- Recursive Methods
- Binary Search Algorithm
- Recursive Binary Search
- Towers of Hanoi problem
- Asymptotic Running Time Analysis (Big-O notation)