

Lesson 1:
Introduction and Efficiency

SEARCH

RESOURCES

CONCEPTS

✓ 1. Course Introduction

✓ 2. Course Outline

✓ 3. Quiz: Course Expectations

✓ 4. Syntax

✓ 5. Quiz: Python Practice

✓ 6. Quiz: Python: The Basics

✓ 7. Efficiency

✓ 8. Notation Intro

✓ 9. Notation Continued

✓ 10. Worst Case and Approximation

✓ 11. Quiz: Efficiency Practice

Course Outline

- Syntax
- Efficiency
- Notation of Efficiency

2. List-Based Collections

- Lists/Arrays
- Linked Lists
- Stacks
- Queues

3. Searching and Sorting

- Binary Search
- Recursion
- Bubble Sort
- Merge Sort
- Quick Sort

4. Maps and Hashing

- Maps
- Hashing
- Collisions
- Hashing Conventions

5. Trees

- Trees
- Tree Traversal
- Binary Trees
- Binary Search Trees
- Heaps
- Self-Balancing Trees

6. Graphs

- Graphs
- Graph Properties
- Graph Representation
- Graph Traversal
- Graph Paths

7. Case Studies in Algorithms

- Shortest Path Problem
- Knapsack Problem
- Traveling Salesman Problem

8. Technical Interview Tips

- Mock Interview Breakdown
- Additional Tips
- Practice with Pramp
- Next Steps