

CSE310 Lecture01: **Algorithms, Counting and Data Structures**

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Topics of this lecture

- Discussion of Syllabus
- Algorithms
 - definition
 - time complexity
 - space complexity
- Counting and Induction Proof
 - number of operations
 - space requirement
- Data Structures
 - stacks and queues
 - advanced data structures

Algorithms

- **An algorithm** is a well-defined step by step computational procedure that
 - is deterministic
 - takes some input
 - produces some output
 - stops on any input
- Examples illustrating what **is** an algorithm and what **is not** an algorithm.