

## Review for Test #1

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- Midterm #1
- Date: 3/13/25
- Note #1 ~ #8
- Problems
  - Write a simple function
  - Outputs by a program segment
  - Brief description of concepts

## Review for Test #1

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- C++ Primitives: Note #1 ~ #4
- Basic Sorting Algorithms
  - Insertion Sort
  - Selection Sort
  - Bubble Sort

## Review for Test #1

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- Pointer variables
- Relation between a Pointer and a Name of Array
- Pointer and Array
  - Pointer and Integer Array
  - Pointer and Character Array
- Array of Pointer to Character String
- Function for c-string: compare, length, copy,...

## Review for Test #1

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- Structured Data Types
  - How to define a structured Data Type
  - Memory Allocation of Structured Data Type
    - Static Memory allocation
    - Dynamic Memory Allocation
  - Accessing a Members in a Structured Data Type
  - A structured Data type as a member of other Structured Data Type
  - Passing a Structured Data Type as a Parameter
  - Initializing members in a Structured Data Type
  - Array of an Structured Data Type

## Review for Test #1

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- Linked List
  - Insert
    - Sorted List
    - Unsorted List
  - Delete
  - Search

## Review for Test #1

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- Object Oriented Program with C++
- Class Declarations in C++
- Class Member Types
  - Private, Public, Protected
- Inline Function vs. Regular Function
- Constructor & Destructor
- Assessing a Class Member
- Initializing class Objects with constructor
  - With default argument
  - Without Default argument

## Review for Test #1

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- Separating Interface from Implementation
- Scope of Member
- Utility Functions
- When Constructor and Destructor is called?
- Insecure Public Function

## Review for Test #1

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- Algorithm & Analyzing Algorithm
- Asymptotic Notation
  - Big  $\Theta$  Notation
  - Big  $O$  Notation
  - Big  $\Omega$  Notation