

## **Evaluation Criteria: Grading Breakdown:**

### **1. Problem 1: Array Insertion (30 points)**

- Correctness of Insertion Logic (15 points):
  - Correctly inserts an element at the specified position.
  - Handles resizing of the array properly.
  - Tests handle different positions (beginning, middle, end).
- Edge Case Handling (10 points):
  - Correctly handles invalid positions (negative index, position greater than size).
  - Manages dynamic memory allocation and deallocation.
- Code Quality and Documentation (5 points):
  - Code is clean and well-documented.
  - Includes comments explaining the insertion logic.

### **2. Problem 2: Array Deletion (30 points)**

- Correctness of Deletion Logic (15 points):
  - Correctly deletes an element from the specified position.
  - Handles resizing of the array properly.
  - Tests handle different positions (beginning, middle, end).
- Edge Case Handling (10 points):
  - Correctly handles invalid positions (index out of bounds).
  - Manages dynamic memory allocation and deallocation.
- Code Quality and Documentation (5 points):
  - Code is clean and well-documented.
  - Includes comments explaining the deletion logic.

### **3. Problem 3: Array Update (20 points)**

- Correctness of Update Logic (10 points):

- Correctly updates an element at the specified position.
- Handles edge cases where the position is out of bounds.
- Code Quality and Documentation (5 points):
  - Code is clean and well-documented.
  - Includes comments explaining the update logic.
- Testing and Validation (5 points):
  - Includes test cases that validate updating functionality and boundary conditions.

#### **4. Testing and Main Function (20 points)**

- Comprehensive Testing (10 points):
    - Demonstrates functionality of all three operations (insert, delete, update) in the main function.
    - Includes diverse test cases, including edge cases and typical scenarios.
  - Correctness and Documentation (10 points):
    - Correctly demonstrates the results of each operation.
    - Clear and concise comments explaining the purpose of each test case.
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