**A: Algorithm Selection**

Greedy Algorithm

**B1: Logic Comments**

**B2: Application of Programming Models**

**B3: Space-Time and Big-O**

**B4: Adaptability**

**B5: Software Efficiency and Maintainability**

**B6: Self-adjusting Data Structures**

**C: Original Code**

**C1: Identification Information**

**C2: Process and Flow Comments**

**D: Data Structure**

**D1: Explanation of Data Structure**

**E: Hash Table**

**F: Look-up Function**

**G: Interface**

**G1: First Status Check**

**G2: Second Status Check**

**G3: Third Status Check**

**H: Screenshots of Code Execution**

**I1: Strengths of the Chosen Algorithm**

**I2: Verification of Algorithm**

**I3: Other Possible Algorithms**

**I3A: Algorithm Differences**

**J: Different Approach**

**K1: Verification of Data Structure**

**K1A: Efficiency**

**K1B: Overhead**

**K1C: Implications**

**K2: Other Data Structures**

**K2A: Data Structure Differences**