DSA THEORY Exercise 4

Q7) **1. Understanding Recursive Algorithms**

**Recursion**:

* A function calls itself to solve a smaller instance of the problem.
* Useful for problems that can be divided into similar subproblems.

**4. Analysis**

**Time Complexity**:

* Varies based on the number of recursive calls; can be O(2^n) if not optimized.

**Optimization**:

* **Memoization**: Store intermediate results to avoid redundant calculations, improving efficiency and reducing time complexity to O(n).