



United International University

Department of Computer Science and Engineering

Spring 241 CSE 2218 Data Structure and Algorithms II Laboratory (F)

Class Performance 4

Total Marks: 30

Any examinee found adopting unfair means will be expelled from the trimester/program as per UIU disciplinary rules.

Question 1

30

You're tasked with developing a search engine for a digital library containing millions of documents. To enhance search accuracy, you've decided to implement the Rabin-Karp algorithm for string matching. However, your challenge is to extend the algorithm to handle multiple patterns simultaneously, efficiently detecting occurrences of any of the given patterns within the documents. How would you modify the Rabin-Karp algorithm to accommodate this requirement while ensuring optimal performance?

Sample Input	Sample Output
Text: The quick brown fox jumps over the lazy dog. Patterns: quick, fox, dog	- Pattern "quick" found at index 4. - Pattern "fox" found at index 16. - Pattern "dog" found at index 35.