CS 382

Fall 2023

Computer Architecture

and Organization Lab 9 Report

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| First name |  |
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# Task 1: Profiling a Linked List and an Array

Please present your experiment record below: either a graph or a chart.

Please explain: why does the two algorithms with both 𝒪(𝑛) complexity, have very different performance when

𝑛 increases? You need to explain in detail from the perspective of **locality**.

# Task 2: Locality Improved Linked List

Please present your experiment record below: either a graph or a chart.

Please explain: what is the time complexity of unrolled linked list? How does a unrolled linked list improve the efficiency of traversal in terms of locality?

**The End **