CS2023 - Data Structures and Algorithms

In-class Lab Exercise - Week 6

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Question 1 – Stack using array

Code: https://github.com/Anuki16/cs2023-data-structures-algorithms/blob/98bafd3dabb33c4825abc14bc40c823fe746af2f/Lab6/stack_array.cpp

Question 2 – Stack using linked list

Code: https://github.com/Anuki16/cs2023-data-structures-algorithms/blob/98bafd3dabb33c4825abc14bc40c823fe746af2f/Lab6/stack_ll.cpp

Question 3

Terminal Output

```
Stack with array
41 67 34 0 69 24 78 58 62 64
41 67 34 0 69
41 67 34 0 69 5 45 81 27
Time taken: 0.006000 s
```

```
Stack with linked list
41 67 34 0 69 24 78 58 62 64
41 67 34 0 69
41 67 34 0 69 5 45 81 27
Time taken: 0.008000 s
```

According to the above output, the stack implementation with an array has taken slightly less time than the linked list implementation. However, the program executed may be too short to make an accurate decision based on the observations.

Complete GitHub repository for code: https://github.com/Anuki16/cs2023-data-structures-algorithms