

Name: Rohit Katkar

Id: c0908798

Java-Assignment-1

1. ArtifactVault

In creating ArtifactVault, I learned about how important it is to choose the right data structure for operations. I had difficulties with managing the array size during deletions, which I overcame by implementing a dynamic resizing method.

2. LabyrinthPath

The LabyrinthPath class using a singly linked list taught me the flexibility of linked structures for frequent modifications.

3. ScrollStack

In The ScrollStack class, I learned about the LIFO concept of stacks.

4. ExplorerQueue

I created the ExplorerQueue class with a circular array. It was confusing to manage head and tail pointers, but I resolved this using a modulo operation for index wrapping.

5. ClueTree

The ClueTree class, I used binary search tree which helped me in fast data retrieval.

Improvements: I would learn complex querying capabilities, like searching within a range, and implement a visualization tool to represent the tree structure for better understanding and debugging.