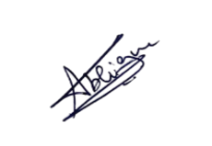
| **STUDENT PORTFOLIO** | |
| --- | --- |
| **C:\Users\user\AppData\Local\Packages\5319275A.WhatsAppDesktop_cv1g1gvanyjgm\TempState\0059872D8926933C13BDA07ECA8409AD\WhatsApp Image 2024-11-06 at 22.41.27_ee215462.jpg** | **Name: Nagireddy Abhigna**  **Register Number: RA2311056010006**  **Mail ID: an4109@srmist.edu.in**  **Department: DATA SCIENCE AND BUSINESS SYSTEMS**  **Semester: 3** |
| **Subject Title: 21CSC201J Data Structures and Algorithm**  **Handled By: Dr. Rajkumar K.** | |
| **ELAB Completion Status Completed 4-5 questions from all the topics** | |
| **Lab Experiment Completion Status  All the 15 experiments were solved, run and executed successfully and took the completed sign from Faculty.** | |
| **REAL WORLD APPLICATION IN DSA PPT VR/SIMULATION DEMO**  **Priority Queue in Emergency Rooms**  **Using Double-Linked List and Vector Data Structures**  **In an emergency room, a priority queue system helps manage patient treatment by sorting individuals based on the urgency of their condition. Patients with life-threatening issues are prioritized over those with minor injuries, ensuring that critical cases receive immediate attention. The system allows you to add, prioritize and display patient list and provide appropriate priority based on severity of the cases.**  **The program is designed with two primary data structures to manage contacts efficiently:**   1. **Heap based queue: Each patient entry is represented as a node within the heap, containing critical information such as the patient’s urgency level, condition severity, and arrival time. The heap’s structure ensures that the most urgent cases—those with the highest priority—can be accessed and processed rapidly.**   **2. Algorithmic Design: Choosing a heap-based priority queue for efficient insertion and deletion, enabling rapid prioritization of critical cases. Data Structure Analysis: Illustrates trade-offs between using a basic queue and a priority queue, showing how a heap-based approach optimally handles frequent updates in priority. Programming Proficiency: Emphasizes memory management, pointer manipulation, and dynamic data handling for effectively managing patient information.**  **Report:** [**https://docs.google.com/document/d/18NS8dKvtQx1s4Bq5DWXJmTqDMmQhlBv2/edit?usp=sharing&ouid=109078718104662686597&rtpof=true&sd=true**](https://docs.google.com/document/d/1JhbNKwzebtpobC2zz0Pf-BrxxaqqQIr9vPexb_YDJ1Q/edit?tab=t.0)  **OUTPUT:** | |
| **GATE Questions Solution.** | |

| <https://drive.google.com/file/d/1qdxf1ljhfBVcEU36EO5xKl-a2_QeoiT9/view?usp=drive_link>  **Any other**  **(Write if you registered or practise apart from Hackerrank, Leetcode, Github.etc**  **Eg: Certification Programs related to DSA ) Hackerrank and CodeChef**      **C:\Users\user\AppData\Local\Packages\5319275A.WhatsAppDesktop_cv1g1gvanyjgm\TempState\8B1D1819083FD8CAE921D69E20715016\WhatsApp Image 2024-10-27 at 19.05.23_4f3a015b.jpg** |
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Nagireddy Abhigna

Signature

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