| **STUDENT PORTFOLIO** | |
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|  | **Name: Kalagarla Teja Sree**  **Register Number: RA2311056010023**  **Mail ID: kk2856@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**  **EVENT TICKET BOOKING SYSTEM**  **Binary Search Tree (BST) Data Structure:**  **A Binary Search Tree (BST) is used as the main data structure for the Event Ticket Booking Management system because it is efficient for managing seat reservations. In this system, each seat is represented by a node in the BST. Each node holds the seat number, its booking status (whether it's booked or available), and the user details if the seat has been reserved. Using a BST helps to quickly search, book, and manage seat information, making it easier to allocate seats efficiently.**  **Data Structure Used: BST**  **Organized Structure: The BST arranges seats in order by seat number, making it easy and fast to find, book, or cancel a seat.**  **Fast Search: With a search time of O (log n), the BST allows quick lookups, insertions, and deletions, providing real-time responses for bookings.**  **Real-Time Availability: The BST allows efficient checks for seat availability, making it easy to find specific seats or groups of seats.**  **Reduced Search Time: Since seats are ordered, the BST provides quicker access to frequently requested seats, minimizing wait times during busy periods.**  **Better Ticket Management: The BST organizes seat data efficiently, making the booking and cancellation process smooth and effective.**  **Report:** [**https://docs.google.com/document/d/1EVcocgC-gMZlfILuSGzGI7lX3zq-rwJ0/edit?usp=sharing&ouid=117085599628234782939&rtpof=true&sd=true**](https://docs.google.com/document/d/1EVcocgC-gMZlfILuSGzGI7lX3zq-rwJ0/edit?usp=sharing&ouid=117085599628234782939&rtpof=true&sd=true)  **OUTPUT:** A screen shot of a computer program  Description automatically generated | |
| **GATE Questions Solution.** | |
| [**https://drive.google.com/file/d/1qZ3uBG1DEcjyndui3h1u3GPmwadXJEDf/view?usp=drive\_link**](https://drive.google.com/file/d/1qZ3uBG1DEcjyndui3h1u3GPmwadXJEDf/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 and Great Learning** | |

Kalagarla Tejasree

Signature

