

DSA INNOVATIVE ASSIGNMENT

MOVIE TICKET BOOKING SYSTEM

21BCE143 – Manav Pandya

21BCE144 – Manav Patel

21BCE145 – Bhavy Masalia

PROJECT DESCRIPTION

- The interface made in our project is for admin use only.
- The main objective of our project is to provide necessary facilities to the admin which includes adding and deleting movie shows, displaying the available movie shows, displaying the seats of the theatre and booking the seats for the customer.
- As and when a new show is added by the admin, 100 vacant seats of that particular show are created.
- While booking the seat of a particular movie for the customer, program will ask admin to enter the name of the movie and show number(1st show, 2nd show etc).
- If the show is available, it will display the seats else it will display the appropriate message.
- Then as per the seats available and customer's demand, admin can book the seat for the asked movie show.

CONCEPTS USED

- BINARY SEARCH TREE
- AVL TREE
 - Used to balance the binary search tree and to enhance searching complexity of the available show.
- DOUBLY CIRCULAR LINKED LIST
 - The empty seats are created to show the seats as well as to check if they are empty or booked.
- DOUBLY CIRCULAR LINKED LIST IN AVL TREE
 - The node of AVL tree represents the show while the data inside the node represents the seats and its status (vacant or booked).

DESCRIPTION OF THE FUNCTIONS USED

- CreateShow()
 - It creates a node in tree which consists of name of the movie and its number. Also it will create 100 seats of that movie using doubly circular linked list.
- DeleteShow()
 - It deletes a movie show which was created by CreateShow() function based on the "show number" entered by admin.
- Display()
 - Used to display the different shows of the movie.

OUTPUT

```
#####
#####      DSA Project:      Made by :      #####
#####      Manav Pandya      21BCE143      #####
#####      Manav Patel       21BCE144      #####
#####      Bhavy Masaliya    21BCE145      #####
#####
-----
```

```
*****
```

Welcome to the Movie Ticket Booking System !!

```
=====
```

Enter the given number:

- 1: Create Show
- 2: Add Show
- 3: Delete Show
- 4: Show the seats of a particular show!
- 5: Book Seats!
- 6: Show all seats!
- 7. To get diferent orders of the AVL Tree!
- 8: Exit!

1

Enter the number of show you want to enter: 3

Enter the show number of the movie: 1

Enter the name of the movie: asd

Enter the show number of the movie: 2

Enter the name of the movie: dfg

Enter the show number of the movie: 3

Enter the name of the movie: ghj

```
=====
```

Enter the given number:

- 1: Create Show
- 2: Add Show
- 3: Delete Show
- 4: Show the seats of a particular show!
- 5: Book Seats!

8: Exit!
6

1: asd

	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										

SCREEN

2: dfg

	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										

SCREEN

3: ghj

	1	2	3	4	5	6	7	8	9	10
A	---	---	---	---	---	---	---	---	---	---
B	---	---	---	---	---	---	---	---	---	---
C	---	---	---	---	---	---	---	---	---	---
D	---	---	---	---	---	---	---	---	---	---
E	---	---	---	---	---	---	---	---	---	---
F	---	---	---	---	---	---	---	---	---	---
G	---	---	---	---	---	---	---	---	---	---
H	---	---	---	---	---	---	---	---	---	---
I	---	---	---	---	---	---	---	---	---	---
J	---	---	---	---	---	---	---	---	---	---
K	---	---	---	---	---	---	---	---	---	---

SCREEN

=====
Enter the given number:

1: Create Show

2: Add Show

3: Delete Show

4: Show the seats of a particular show!

5: Book Seats!

6: Show all seats!

7. To get diferent orders of the AVL Tree!

8: Exit!

5

1 asd

2 dfg

3 ghj

Enter the show number of the movie: 2

2

dfg

Enter the number of seats you want to book: 2

	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										

SCREEN

Enter the row you want to book: A
 Enter the seat number you want to book: 2
 1

	1	2	3	4	5	6	7	8	9	10
A		B								
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										

SCREEN

Enter the row you want to book: A
 Enter the seat number you want to book: 3
 2

Enter the row you want to book: A
Enter the seat number you want to book: 3
2

	1	2	3	4	5	6	7	8	9	10
A		B	B							
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										

SCREEN

The booking is confirmed successfully!!

=====

Enter the given number:

- 1: Create Show
 - 2: Add Show
 - 3: Delete Show
 - 4: Show the seats of a particular show!
 - 5: Book Seats!
 - 6: Show all seats!
 - 7: To get diferent orders of the AVL Tree!
 - 8: Exit!
- 7

=====

Enter the given number:

- 1: Create Show
 - 2: Add Show
 - 3: Delete Show
 - 4: Show the seats of a particular show!
 - 5: Book Seats!
 - 6: Show all seats!
 - 7. To get diferent orders of the AVL Tree!
 - 8: Exit!
- 7

The inorder of the Tree is: 1 2 3

The Preorder of the Tree is: 2 1 3

The Postorder of the Tree is: 1 3 2

=====

Enter the given number:

- 1: Create Show
 - 2: Add Show
 - 3: Delete Show
 - 4: Show the seats of a particular show!
 - 5: Book Seats!
 - 6: Show all seats!
 - 7. To get diferent orders of the AVL Tree!
 - 8: Exit!
- 8

Thank You !!

Do visit again :)

THANK YOU