Project 1A: Movie Management System

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DESIGN

The main objective was to develop a management system for a theater to maintain two lists of movies, ones currently "showing" in the theater and ones that are "coming" to the theater. In order to achieve this, a class called "Movie" was created and in that class are the methods initializeMovies, displayMainMenu, listSelectMenu, iterateAndPrintMovies, and waitForUser. The main data structures used are linked lists to iterate through the movies and arrays to maintain the movie titles and dates. The model for this system is largely based on user input using For Loops to display menu options for the user to display movies, add movies, edit release dates, edit movie description, start showing movies in the theater, number of movies before a date, save, and exit the menu. The list also keeps track of the coming movies in chronological order by release date. If the user enters a specified date the program will also count the number of movies coming prior to that date.

UML SYSTEM

Movie
- title: String
- description: String
- releaseDate: Date
- receiveDate: Date
- releaseStatus: Status
+ Movie(): void
+ setTitle(): void
+ setDescription(): void
+ setReleaseDate(): void
+ setReceiveDate(): void
+ setReleaseStatus(): void
+ getTitle(): String
+ getDescription(): String
+ getReleaseDate(): Date
+ getReceiveDate(): Date
+ getReleaseStatus(): Status

ManagementSystem
- scnKeyboard: Scanner
+ main(): void
- initializeMovies(): void
- displayMainMenu(): void
- listSelectMenu(): void
+ iterateAndPrintMovies(): void
+ reverseIterateAndPrintMovies(): void
+ waitForUser(): void
+ stringToDate(): Date
+ compareMovies(): boolean
+ comingToShowing(): int
+ editComingMovie(): void
+ orderComingList(): void
+ countDatesBefore(): int

TEST CASES:

```
# Showing Movies

Title: Lord of the Rings
Description: Ring ring
ReleaseDate: 06/01/2024
ReceiveDate: 05/01/2024
Status: RELEASED

Title: Star Wars the Phantom Menace
Description: Lightsabers
ReleaseDate: 06/15/2024
ReceiveDate: 05/15/2024
Status: RELEASED

Title: Big Hero 6
Description: Medical robot gone violent
ReleaseDate: 07/01/2024
ReceiveDate: 06/01/2024
Status: RELEASED

# Coming Movies

Title: The Barbie Movie
Description: Cool people only
ReleaseDate: 08/01/2024
ReceiveDate: 07/01/2024
Status: RECEIVED

Title: Five Nights at Freddy's
Description: Animatronics on the loose
ReleaseDate: 08/15/2024
ReceiveDate: 07/15/2024
Status: RECEIVED

Title: Avatar
Description: Blue people
ReleaseDate: 09/01/2024
ReceiveDate: 08/01/2024
Status: RECEIVED
```

GROUP CONTRIBUTIONS

Mitchell Jones - Created movie class and wrote the initial code for both of the linked lists. Setup the main menu to allow the user to view either the movies "coming" list or the movies "showing list." This was done by creating the "iterateAndPrintMovies" method. I also added the exit option in the main menu and started the add movie option in the menu, to be built upon. Created initialize movies method to fill both linked lists with sample movies.

Ollie Peel - Wrote code that allows the user to add new movies to the "coming" list and start showing movies in the theater with a specified release date. Also helped with the UML diagram.

Jeffrey Saylor - Wrote two methods, editComingMovie, and orderComingList. editComingMovie allowed the user to edit any movie inside of the coming list and have its description or date changed. orderComingList made sure that the coming list of movies was ordered by non-decreasing order and will always be fired before displaying the list of movies. I also added another choice in the menu for the user to use the editComingMovie method.

Rawan Alhachami - Created the report, provided design explanation and wrote countDatesBefore method so the user can enter a specified date and the coming movies before that date will be counted

Alex Brinkly - Created a formatted text file containing a list of movies "coming" and movies "showing."