.NET Project

Welcome to your .NET Project. In this project we will be making a Movie Theatre Application.

STRICT RULE:

You will be working in groups for this project. You will be forming groups of TWO or THREE people only! You cannot work alone for this project either.

Imagine that you have been contracted to create a Movie Theatre Application for MoviePlex Theatre (a company known world-wide for having no line-ups or delays when purchasing movie tickets). Part of their success comes from the fact that their business is automated and no human intervention is needed for any of their business processes.

MoviePlex Theatres now wants to fully automate their ticket selling system and your team has been contracted to develop the system and provide a world-class experience for its users.

When your application starts, you should have two options, Administrator and Guests.

Administrator: This option requires the user to enter a password before you are able to go further (you can hardcode the password in your code). If entered correctly, the user is able to proceed, but if the password is incorrect, the application will prompt the user to enter the password again (until the user enters the correct password). There should also be an option to

go back to the start of the application (where the user was presented with the two Administrators, Guests options). This option can be entered anytime to go back to the start of the application. If the user did not get the password right after 5 attempts at the password, the user will be taken back to the start of the application. Look at the screenshot below. Notice how there is a small counter that lets the user how many attempts they have remaining.

When the password is entered successfully, the user (who is logged in as an administrator) is now able to enter how many movies are playing (you should store these values somewhere in memory as you will need to retrieve it later. An array or Collections perhaps will help in this case). Once the user has entered how many movies are playing (maximum 10 movies), ask the user to enter each movie's name and the age limit or rating. The age limit defines how old someone should be to watch the movie. The rating is a system which is used as a guideline to for certain audiences to watch the movie. See the chart below to find out what rating is allowed to be entered.

Rating symbol	Meaning
G	**G – General Audiences** *All ages admitted. Nothing that would offend parents for viewing by children.*
PG	**PG – Parental Guidance Suggested** *Some material may not be suitable for children. Parents urged to give "parental guidance". May contain some material parents might not like for their young children.*
PG-13	**PG-13 – Parents Strongly Cautioned** *Some material may be inappropriate for children under 13. Parents are urged to be cautious. Some material may be inappropriate for pre-teenagers.*
R	**R – Restricted** *Under 17 requires accompanying parent or adult guardian. Contains some adult material. Parents are urged to learn more about the film before taking their young children with them.*
NC-17	**NC-17 – Adults Only** *No One 17 and Under Admitted. Clearly adult. Children are not admitted.*

Source: https://en.wikipedia.org/wiki/Motion_Picture_Association_of_America_film_rating_system

G – General Audience, any age is good

PG – We will take PG as 10 years or older

PG-13 – We will take PG-13 as 13 years or older

R – We will take R as 15 years or older. Don't worry about accompany by parent case.

NC-17 – We will take NC-17 as 17 years or older

```
Welcome MoviePlex Administrator

How many movies are playing today?: 4

Please Enter The First Movie's Name: Hulk
Please Enter The Age Limit or Rating For The First Movie: 14

Please Enter The Second Movie's Name: You Don't Know Me
Please Enter The Age Limit or Rating For The Second Movie: R

Please Enter The Third Movie's Name: Paw Patrol
Please Enter The Age Limit or Rating For The Third Movie: 2

Please Enter The Fourth Movie's Name: Rush Hour
Please Enter The Age Limit or Rating For The Fourth Movie: PG-13
```

Once the movies and age limit or ratings have been entered by the user, the application will prompt the user with the following screen:

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    1. Hulk {14}
    2. You Don't Know Me {R}
    3. Paw Patrol {2}
    4. Rush Hour {PG-13}

Your Movies Playing Today Are Listed Above. Are you satisfied? (Y/N)?
```

The screen displays the movie names and age limit or rating that was entered. The application then asks the user if they are satisfied with the movies playing.

If the user selects **Y** or **y**, they are taken to the starting options where the user can select to log in as a guest or admin.

If the user selects **N** or **n**, they are moved back to the point where they are asked again how many movies are playing.

Guest: This option shows the user the movies which are playing, along with the age limit for each movie beside the title of the movie (inside curly braces). The application asks the user which movie they would like to watch. If a valid option is chosen, the application asks the user for their age. If an invalid option is chosen, the application shows the user an appropriate message (this means that you cannot throw a generic error message, you must tell the user what is the issue with the input) and asks them to input again. When a valid input is entered for the age, the application checks to see if the user is over the age limit. If the user is the same age

or older than the movie limit, the application prints out Enjoy the Movie and waits for the user to select what to do next. If the user is under the age limit of the movie, the application lets the user know that they are under the age limit and displays the movie list again, forcing the user to select another movie.

```
****************************************
*** Welcome to MoviePlex Theatre ***
****************************************


There are 4 movies playing today. Please choose from the following movies:

        1. Hulk {14}
        2. You Don't Know Me {R}
        3. Paw Patrol {2}
        4. Rush Hour {PG-13}

Which Movie Would You Like To Watch: 2
Please Enter Your Age For Verification: 22


Enjoy The Movie!

Press M to go back to the Guest Main Menu.
Press S to go back to the Start Page.
```

Please make sure that the application has a flow to it. It cannot get stuck with weird or invalid user inputs. Hackers go to great lengths to exploit an application to give away its inner-workings. By crashing the application, there is usually something shown to the user as to what went wrong (sometimes it also contains the stack trace). This kind of information enables a hacker to gain valuable knowledge into what kind of backend systems are being used. It is your job to catch any form of exception thrown and handle them in a proper way.

For example: If a character **H** was entered for age, since **H** is not a valid age or rating, the program should print a message to the user that the age was invalid and give the user the opportunity to enter the age again or go back to the movie page to make another movie selection.

Remember to make sure you do not get your application in a state where the user is stuck and cannot do anything. Make sure you provide a way for the user to go back to where they can re-enter something which may not have been entered correctly or go back to the main menu (only if it is needed. Do not make the user go back to the start of the application if they have entered an invalid age).

Please please please, make sure you are guarding against ALL ILLOGICAL user inputs!