



Java Programming

Assignment 3

Movie Theater Class

- Create a class **Movie** and **MovieTheater**. Movie class should have these fields:

```
String title;  
int duration;  
int year;  
String []castOfActors;
```

and setters and getters for these variables. Also, provide function to output movie info(title, year, cast).

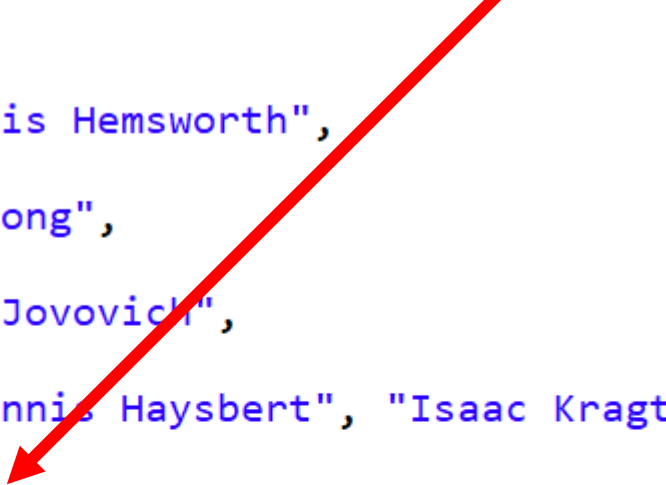
- **MovieTheater** class should have constructor with array of Movie objects as input and **makeSchedule()** function to create random one-day schedule from 4 movies. This function should use **duration** of movie to compute starting and ending time. The first movie starts at 10:00 AM. Also, consider 30 min break between movies.

Sample main function

Duration in minutes

- Yours might be different

```
public static void main(String[] args) {  
  
    String []avengersCast = {"Robert Downey Jr","Chris Hemsworth",  
                             "Scarlett Johanson","Mark Ruffalo"};  
    String []shazamCast = {"Zachary Levi", "Mark Strong",  
                           "Asher Angel", "Jack Dylan Grazer"};  
    String []hellboyCast = {"David Harbour", "Milla Jovovich",  
                            "Ian McShane", "Sasha Lane" };  
    String []breakthroughCast = {"Sam Trammell", "Dennis Haysbert", "Isaac Kragten"};  
  
    Movie avengers= new Movie("Avengers: Endgame",180,2019,avengersCast);  
    Movie shazam= new Movie("Shazam!",140,2019,shazamCast);  
    Movie hellboy= new Movie("Hellboy",180,2019,hellboyCast);  
    Movie breakthrough = new Movie("Breakthrough",120,2019,breakthroughCast);  
  
    Movie [] movies= {avengers,shazam,hellboy,breakthrough};  
    |  
    MovieTheater CGV = new MovieTheater(movies);  
  
    CGV.makeSchedule();  
}
```



Sample outputs

- Schedule should be made randomly
- New run -> new schedule

*** "Avengers: Endgame" ***

Year: 2019

Main roles: Robert Downey Jr, Chris Hemsworth, Scarlett Johanson, Mark Ruffalo.

--- Start time: 10:00 ---

--- End time: 13:00 ---

*** "Breakthrough" ***

Year: 2019

Main roles: Sam Trammell, Dennis Haysbert, Isaac Kragten.

--- Start time: 13:30 ---

--- End time: 15:30 ---

*** "Shazam!" ***

Year: 2019

Main roles: Zachary Levi, Mark Strong, Asher Angel, Jack Dylan Grazer.

--- Start time: 16:00 ---

--- End time: 18:20 ---

*** "Hellboy" ***

Year: 2019

Main roles: David Harbour, Milla Jovovich, Ian McShane, Sasha Lane.

--- Start time: 18:50 ---

--- End time: 21:50 ---

*** "Breakthrough" ***

Year: 2019

Main roles: Sam Trammell, Dennis Haysbert, Isaac Kragten.

--- Start time: 10:00 ---

--- End time: 12:00 ---

*** "Hellboy" ***

Year: 2019

Main roles: David Harbour, Milla Jovovich, Ian McShane, Sasha Lane.

--- Start time: 12:30 ---

--- End time: 15:30 ---

*** "Avengers: Endgame" ***

Year: 2019

Main roles: Robert Downey Jr, Chris Hemsworth, Scarlett Johanson, Mark Ruffalo.

--- Start time: 16:00 ---

--- End time: 19:00 ---

*** "Shazam!" ***

Year: 2019

Main roles: Zachary Levi, Mark Strong, Asher Angel, Jack Dylan Grazer.

--- Start time: 19:30 ---

--- End time: 21:50 ---

Remarks

- Movies object array should contain no more than 4 movies.
- Don't add more than 5 actors to cast.
- Add validators for incorrect input. If the length of title is greater than 20 symbols, your program should automatically cut it to 20. Year should be from 2000 to 2020 and duration from 1 hour to 3 hours.
- Example:

```
Movie avengers= new Movie("Avengers: Endgame 123456789",200,2022,avengersCast);
```

- Output:

```
Length is big. Cut to 20 symbols.  
Invalid duration. Set to 1.5 hrs.  
Invalid year. Set to 2019.  
*** "Avengers: Endgame 12" ***  
Year: 2019  
Main roles: Robert Downey Jr, Chris Hemsworth, Scarlett Johanson, Mark Ruffalo.  
--- Start time: 10:00 ---  
--- End time: 11:30 ---
```



- If you complete all mentioned tasks, you'll get **10** points.
- You can earn **extra** (1-3) points for your previous or future assignments if you add more functionality like:
 - Displaying short movie info
 - Displaying movie genres
 - User inputs
 - Etc.

- Just be creative :)



Release Date: [April 26th, 2019](#)

Not Yet Rated | 3 hr 2 min

Plot Summary

Adrift in space with no food or water, Tony Stark sends a message to Pepper Potts as his oxygen supply starts to dwindle. Meanwhile, the remaining Avengers -- Thor, Black Widow, Captain America and Bruce Banner -- must figure out a way to bring back their vanquished allies for an epic showdown with Thanos -- the evil demigod who decimated the planet and the universe.

Cast: [Robert Downey Jr.](#), [Chris Evans](#), [Josh Brolin](#), [Mark Ruffalo](#), [Chris Hemsworth](#), [Scarlett Johansson](#), [Jeremy Renner](#), [Don Cheadle](#)

Director: [Anthony Russo](#), [Joe Russo](#)

Genres: [Fantasy](#), [Action](#), [Adventure](#), [Science fiction](#)

Production Co: [Marvel Studios](#)

Distributors: [Walt Disney](#)

Questions

- If you have difficulties with submission or understanding the task, you can contact me

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