Mock revision Question Set 3

You just joined SP movie club and you are asked to create a movie app in JavaScript. You are asked to recycle the codes and data that your predecessor and they are as shown in Annex A below.

ANNEX A

```
let movie_name = ["Black Panther: Wakanda Forever 2022", "Avatar: The Way of the Water", "Fast X", "Ant-Man and the Wasp: Quantumania",
"M3GAN"];
let genre = ["Aventure, Action, Drama, Fantasy, Sci-Fi, Thriller", "Adventure, Sci-Fi", "Crime, Action, Mystery, Thriller", "Adventure, Action",
"Horror, Mystery, Triller"];
let running_time = [161, 192, 43, 120, 102];
let rating = ["9, 42", "4, 15", "28, 60", "18, 80", "20, 70"];
let parsed_running_time = [];
let parsed_rating = [];
let parsed_rating_count: [];
```

QUESTION 1

Use all the variables and information in Annex A and create their corresponding properties in an object called ‘movie_details’.

You should code this in Section A of the template script and then try displaying all the items in one of properties in Section B.

QUESTION 2

Create a method, ‘process_time()’ , in the ‘movie_details’ object. This method should take the data in the ‘running_time’ array property and convert them to hours and minutes, and then systematically store them in the ‘parsed_running_time’ array in the ‘movie_details’ object.

You should code this in Section A of the template script and then try invoking the method in Section B. In addition, you should then display the ‘parsed_running_time’ array to check that you are able to obtain the data has been correctly parsed as shown below:

```
2h, and 41m
3h, and 12m
43m
2h
1h, and 42m
```

QUESTION 3

Create a method, ‘process_rating()’, in ‘movie_details’ object. This method should:

- take the data in the ‘rating’ array property in ‘movie_details’, calculate the average rating, and then store the calculated value in ‘parsed_rating’ array.
- Store the rating count in the ‘parsed_rating_count’ array.

For information, "9, 42" in rating array means that the total rating is 42, and the number of people rated is 9. Therefore:

- the average rating that should be stored in ‘parsed_rating’ array is = 42/9 = 4.67.
- the rating count that should be stored in ‘parsed_rating_count’ array is = 9

You should code this in Section A of the template script and then try invoking the method in Section B. In addition, you should then display the ‘parsed_rating’ array to check that you are able to obtain the data has been correctly parsed as shown below:

```
4.67
3.75
2.14
4.44
3.50
```

QUESTION 4

Create a method, display_movie_titles(), in ‘movie_details’ object. This should systematically display the items in ‘movie_name’ array.

You should code this in Section A of the template script and then try invoking the method in Section B. Check that you are able to obtain the data has been correctly parsed as shown below:

```
No.    Movie Name
1.     Black Panther: Wakanda Forever 2022
2.     Avatar: The Way of the Water
3.     Fast X
4.     Ant-Man and the Wasp: Quantumania
5.     M3GAN
```

QUESTION 5

Create a method, display_individual_movie_details(), in ‘movie_details’ object. This method should:

- allow for user to specify the index of the movie (based on the numerical order in Question 4 above), and then
- display the specific movie details that include the movie name, genre, running time and rating, as shown in the example below.

```
Select movie by entering index: 1

Name:   Black Panther: Wakanda Forever 2022
Genre:  Aventure, Action, Drama, Fantasy, Sci-Fi, Thriller
Running Time:   2h, and 41m
Rating: 4.67 (9)
```

You should code this in Section A of the template script and then try invoking the method in Section B.

HINT: process_time() and process_rating() must be ran alongside with display_individual_movie_details() and that process_time() and process_rating() must be placed before display_individual_movie_details()

QUESTION 6

Create a method, display_all_movie_details(), in 'movie_details' object. This method should display all the movie details. Each movie detail should include the movie name, genre, running time and rating.

You should code this in Section A of the template script and then try invoking the method in Section B. Check that you are able to obtain the output below.

HINT: process_time() and process_rating() must be ran alongside with display_all_movie_details() and that process_time() and process_rating() must be placed before display_all_movie_details()

```
Name:   Black Panther: Wakanda Forever 2022
Genre:  Aventure, Action, Drama, Fantasy, Sci-Fi, Thriller
Running Time:   2h, and 41m
Rating: 4.67 (9)

Name:   Avatar: The Way of the Water
Genre:  Adventure, Sci-Fi
Running Time:   3h, and 12m
Rating: 3.75 (4)

Name:   Fast X
Genre:  Crime, Action, Mystery, Thriller
Running Time:   43m
Rating: 2.14 (28)

Name:   Ant-Man and the Wasp: Quantumania
Genre:  Adventure, Action
Running Time:   2h
Rating: 4.44 (18)

Name:   M3GAN
Genre:  Horror, Mystery, Triller
Running Time:   1h, and 42m
Rating: 3.50 (20)
```

QUESTION 7

Create a method, search_highest_lowest_average_rating(), in 'movie_details' object. This method should systematically check the parsed_rating array and then return the highest and lowest rating of each movie and their corresponding movie name.

You should code this in Section A of the template script and then try invoking the method in Section B. Check that you are able to obtain the output below.

```
Movie with highest rating is: Black Panther: Wakanda Forever 2022, rating: 4.67;
Movie with lowest rating is: Fast X, rating: 2.14
```

HINT: process_rating() must be ran alongside with search_highest_lowest_average_rating() and that process_rating() must be placed before search_highest_lowest_average_rating()

QUESTION 8

Create a method, add_new_movie(), in ‘movie_details’ object. This method should allow for user input on movie name, genre, duration, movie rating, and number of people rated. Then it should perform some calculations on duration format parsing and average rating and place them in the appropriate arrays.

You should code this in Section A of the template script and then try invoking the method in Section B. An example of the desired outcome is as shown below.

```
Enter new movie name: Star Wars
Enter the genre (separated by commas if >1): Sci-Fi, Adventure
Enter movie duration in total mins: 120
Enter movie rating (1-100): 80
Enter number of people rated the movie: 8
```

HINT: process_rating() and process_time() must be ran alongside with add_new_movie() and that process_rating() and process_time() must be placed before add_new_movie(). Run display_all_movie_details() to check that the new movie details have been added properly.

QUESTION 9

Create a main() function that is not part of the ‘movie_details’ object. This function should **continually display a menu and prompt for user input till user choose to exit the menu**. The menu and the prompt are as shown below:

```
**Welcome to SP's Movie World**

1. Display Movie Titles
2. Display Individual Movie Details
3. Display All Movie Details
4. Add New Movie Details
5. Search Movies with Highest and Lowest Rating
0. Exit

Enter choice (1-5), 0 to exit:
```

You are to:

- use a case switch expression to code the selection statements in the function;
- depending on the choice by the user, it should trigger the corresponding methods in the movie-details object;

- include a basic data validation technique in your code to guard against invalid input by user. You may use any techniques for validation.

HINT: You must take care of methods with dependencies. Ensure that their dependent methods are ran ONLY once.

A test script with various user inputs and their corresponding desired outcome are as shown in Annex B. The repeated menu and prompt are not shown, for simplicity.

ANNEX B

Sample 1: Option 1 selected

```
Enter choice (1-5), 0 to exit: 1
No.   Movie Name
1.    Black Panther: Wakanda Forever 2022
2.    Avatar: The Way of the Water
3.    Fast X
4.    Ant-Man and the Wasp: Quantumania
5.    M3GAN
```

Sample 2: Option 2 selected

```
Enter choice (1-5), 0 to exit: 2
No.   Movie Name
1.    Black Panther: Wakanda Forever 2022
2.    Avatar: The Way of the Water
3.    Fast X
4.    Ant-Man and the Wasp: Quantumania
5.    M3GAN
Select movie by entering index: 2

Name:   Avatar: The Way of the Water
Genre:  Adventure, Sci-Fi
Running Time:   3h, and 12m
Rating: 3.75 (4)
```

Sample 3: Option 3 selected

```
Enter choice (1-5), 0 to exit: 3

Name:   Black Panther: Wakanda Forever 2022
Genre:  Aventure, Action, Drama, Fantasy, Sci-Fi, Thriller
Running Time:   2h, and 41m
Rating: 4.67 (9)

Name:   Avatar: The Way of the Water
Genre:  Adventure, Sci-Fi
Running Time:   3h, and 12m
```

```
Rating: 3.75 (4)

Name:   Fast X
Genre:  Crime, Action, Mystery, Thriller
Running Time:   43m
Rating: 2.14 (28)

Name:   Ant-Man and the Wasp: Quantumania
Genre:  Adventure, Action
Running Time:   2h
Rating: 4.44 (18)

Name:   M3GAN
Genre:  Horror, Mystery, Triller
Running Time:   1h, and 42m
Rating: 3.50 (20)
```

Sample 4: Option 4 selected

```
Enter choice (1-5), 0 to exit: 4
Enter new movie name: Star Wars
Enter the genre (separated by commas if >1): Sci-Fi, Aventure
Enter movie duration in total mins: 120
Enter movie rating (1-100): 80
Enter number of people rated the movie: 8
```

Sample 5: Option 5 selected

```
Enter choice (1-5), 0 to exit: 5
Movie with highest rating is: Star Wars, rating: 10;
Movie with lowest rating is: Fast X, rating: 2.14
```

Sample 6: Invalid Input

```
Enter choice (1-5), 0 to exit: 9
Invalid Option. Please Enter 0-5 only.
```

Sample 7: Option 0 selected

```
Enter choice (1-5), 0 to exit: 0
Good Bye...
```