

Mid-Term – Create a “Weekly Sleep Tracker” Application

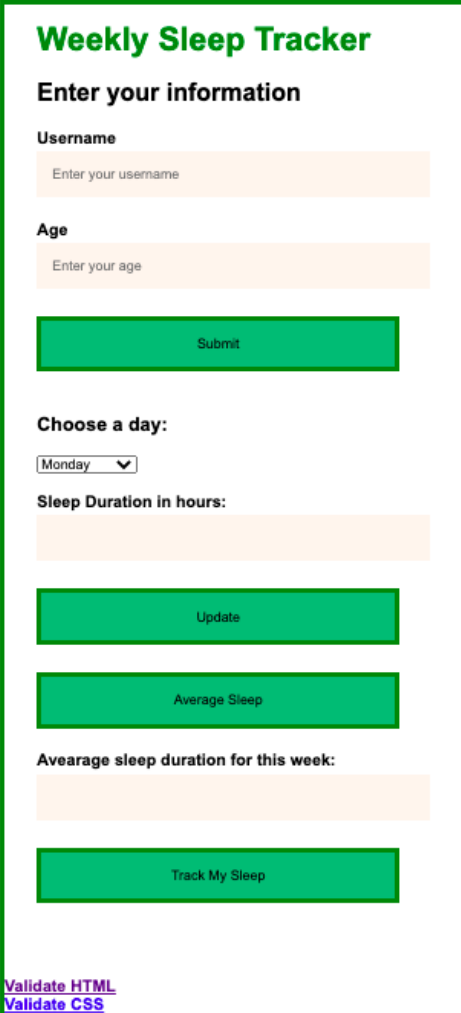
For this mid-term activity, you’ll create an application that allows a user to add their information, update their sleep duration, see average sleep duration and days on which a user slept less than 7 hrs. You will have 2.5 hours to complete this activity.

Part 0: Download files

1. Download *Midterm .zip that contains the Midterm.html, Midterm.css, and Midterm.js* and save it under the Exercise folder on your computer. Then extract the zip file.
1. Verify there are no errors in all the files

Part 1: Develop and design the application

After designed and developed, the application should look like the following figure:



Weekly Sleep Tracker

Enter your information

Username

Age

Choose a day:

Sleep Duration in hours:

Average sleep duration for this week:

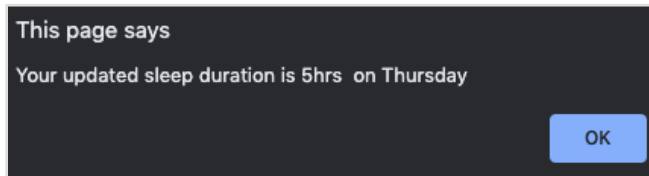
[Validate HTML](#)
[Validate CSS](#)

1. Add a form so that it looks similar to the first part of the above figure, where you will add the following:
 - a) Header with content- “Enter your information”
 - b) Input fields will be for Username and Age. Add appropriate placeholders and labels. Input values are required for both these fields.
 - c) Labels should be bold.
 - d) The age field should only accept numbers between 5 and 120.
 - e) Username should not accept more than 10 letters.
 - f) A button for form submission.
2. After the form, add a drop-down list with appropriate labels and options of all the days from Monday through Sunday.
3. Add an input field for “Sleep duration in hours” with the appropriate label that only accept numbers.
4. Add three buttons, for “Update”, “Average Sleep”, and “Track my Sleep” (refer to the above figure)
5. Add a text field to display the average sleep with the appropriate label.
6. All labels should be bold.
7. In the Midterm.css apply the same style to all the four buttons (Submit, Update, Average Sleep, and Track My Sleep), so that it looks similar to the figure. Make sure you use green background color for buttons and add a border for each button.

***Note:** Background color code used for all three buttons is 3cb371, for border color is solid green and the border is 5 pixels wide*
8. All text boxes should use a background color SeaShell.
9. Check that there are no HTML and CSS errors.

Part 2: Add interaction to your application

1. Two arrays with the seven **days** and its corresponding sleep **duration** are given to you.
2. Write the **updateSleep()** function. This event will be triggered, after a user chooses a day, enters a sleep duration, and hits the Update button. This function should read the sleep duration entered by the user, and update it in the “duration” array for the day that the user chose. With that, it should also show an alert -Your updated sleep duration is ‘—‘ hrs on ‘ — ‘ day as shown in the below figure (the style for the alert in your machine can look different).
3. If the user has not entered any sleep duration and hits update, then an alert should say- "Enter a valid number". After an alert is shown, you should clear the input field for entering a new sleep duration.



4. Write a function to calculate average sleep for the week. Name the function as **showAverageSleep ()**.
5. The function **showAverageSleep()** will be triggered after a user hits the Average Sleep button. It should show the average sleep duration for the week inside the input field that has a label of “Average sleep duration for this week”. Then using JS add style. *Set the font color to green and the border color to red.* A portion of the webpage should look like the below figure after the Average Sleep button is hit.

Average Sleep

Avearage sleep duration for this week:

7

6. Write the **displaySleepDuration()** function. This event will be triggered, after a user hovers the mouse over the button “Track My Sleep”. It should find out all days on which the user slept less than 7 hours and show it on the HTML page as a table, as shown in the below figure. It should also add a paragraph before the table as shown in the below figure.

Track My Sleep

Hey ! you slept less than 7 hours on the following days

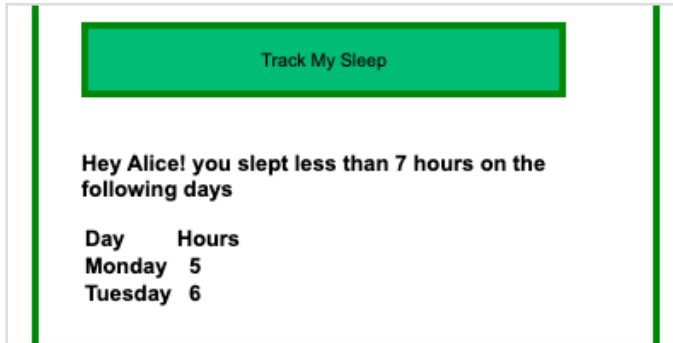
| Day | Hours |
|---------|-------|
| Monday | 5 |
| Tuesday | 6 |

7. Check that there are no JavaScript errors.

Part 3: Extra credit (optional) - personalize the “Weekly Sleep Tracker” Application

1. Update the **displaySleepDuration()** function so that the paragraph before the table now shows the **username** entered by the user in the Username field of the form as shown in the below figure. For example, below as shown in the figure, **Alice** is the

username fetched from the form. The username is fetched assuming that the submit button of the form was clicked before you hovered over the button “Track My Sleep”. Check that there are no JavaScript errors.



Track My Sleep




Hey Alice! you slept less than 7 hours on the following days

| Day | Hours |
|---------|-------|
| Monday | 5 |
| Tuesday | 6 |

Part 4: Turn in your activity

Upload all the files, **Midterm.html**, **Midterm.css**, **Midterm.js** files to Canvas and your webpage account, and add the **URL** from your webpages account to the open-ended comment section on Canvas. (1pt)

Rubric is on the next page...

| Mid-Term Activity Rubric    | | | |
|--|----------------------|-------------------|--------|
| Criteria | Ratings | | Pts |
| 1. Form Design a) Header with content (1pt) b) Appropriate input fields added. Appropriate placeholders and labels added (4) c) Required HTML validations added (4) d) A submit button (1) | 10 pts Full Marks | 0 pts No Marks | 10 pts |
| 2. Dropdown Dropdown added with appropriate labels and options (2) | 2 pts Full Marks | 0 pts No Marks | 2 pts |
| 3. Input Fields Input field with appropriate label should only accept numbers (2) | 2 pts Full Marks | 0 pts No Marks | 2 pts |
| 4. Three buttons added | 1 pts Full Marks | 0 pts No Marks | 1 pts |
| 5. Input field with an appropriate label (1) | 1 pts Full Marks | 0 pts No Marks | 1 pts |
| 7. Same style to all buttons (2) | 2 pts Full Marks | 0 pts No Marks | 2 pts |
| Check that there is no HTML , CSS errors, and JS errors | 3 pts Full Marks | 0 pts No Marks | 3 pts |

| | | | |
|--|------------------------|----------------------|-------|
| updateSleep() a) read the user entered data (1) b) update array values (1) c) shows the correct alert message (1) d) alert is number is not entered (1) e) clear the input field (1) f) function works as expected (2) | 7 pts Full Marks | 0 pts No Marks | 7 pts |
| showAverageSleep () a) average calculated correctly (2) b) show correct value inside the input field (1) c) use JS to add styles (2) d) method works as expected (2) | 7 pts Full Marks | 0 pts No Marks | 7 pts |
| displaySleepDuration() a) finds the correct values to be displayed (2) b) show it on the HTML page as a table (2) c) add the paragraph (1) c) method works as expected (2) | 7 pts Full Marks | 0 pts No Marks | 7 pts |
| Correct URL provided | 1 pts Full Marks | 0 pts No Marks | 1 pts |
| Extra Credit a) Username fetched from the form and shown correctly on the webpage (4) | 0 pts Full Marks | 0 pts No Marks | 0 pts |
| 8. Text Color (1) | 1 pts Full Marks | 0 pts No Marks | 1 pts |
| Total Points: 44 | | | |

The extra credit points will be added to the total grade that you get out of 44. So, if you get 44 out of 44, and score the 4 extra credit points, you get 48 out of 44.