

**CS 213: System Software Lab**  
**Autumn 2024, IIT Dharwad**  
**Assignment-5**

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1. Create a webpage that includes a few text paragraphs. When the user hovers over any paragraph, a tooltip should appear displaying the length (number of characters) of the paragraph. The tooltip should disappear when the user moves the cursor away.

**Requirements:** Tooltip should dynamically adjust its position near the mouse cursor. Use JavaScript to calculate the length of the paragraph and display it in the tooltip.

**Hints:** Use the mouseover and mouseout events. Create and manipulate DOM elements for the tooltip dynamically.

This is the first paragraph. Hover over to see its length in characters.

Length: 72 characters

Another paragraph with more text. Second paragraph.

Short one.

Similarly, when you hover over the 2nd one, it should show 50 characters, and for the 3rd one, it should show 10 characters. [6 Marks]

2. Create a password input field and a submit button. As the user types in the password, display a strength meter that visually indicates the strength of the password (e.g., Weak, Medium, Strong) based on the following criteria: Password length. Inclusion of uppercase and lowercase letters. Numbers and special characters.

**Requirements:** The strength meter should be a coloured bar that changes colour and text based on password strength. Use regular expressions to validate password content.

The image shows three sequential states of a 'Password Strength Checker' interface. Each state consists of a title, a password input field, a strength indicator bar, a strength label, and a submit button.

- Weak State:** The input field contains 6 dots. The bar is red. The label is 'Weak'. The submit button is grey and disabled.
- Medium State:** The input field contains 7 dots. The bar is orange. The label is 'Medium'. The submit button is grey and disabled.
- Strong State:** The input field contains 8 dots. The bar is green. The label is 'Strong'. The submit button is green and enabled.

The submit button should be enabled only when the password is strong.

Weak: 6 characters but only lowercase letters.

Medium: at least 6 characters, the mix of uppercase and lowercase and digits.

Strong: at least 8 characters with a mix of uppercase and lowercase, digits and special characters.

[6 Marks]

3. Create a webpage that displays a list of tasks. The user should be able to add a new task, remove a task, and mark tasks as completed. This requires creating the following three files:

A) HTML:

[2 Marks]

- Create a simple form with a text input field and a button for adding tasks.
- Below the form, there should be an unordered list where the tasks will appear.

B) CSS:

[3 Marks]

- Style the form, input field, and button to look presentable.
- Style the list of tasks, making sure that completed tasks have a line-through effect.
- Add hover effects to buttons for better user experience (prefer colour as per your wish).

C) JavaScript:

[3 Marks]

- Write the JavaScript code to handle the form submission.
- When the user types a task into the input field and clicks the "Add Task" button:
  - The new task should appear in the task list as a list item.
  - Each list item should include:
    - The task text.
    - A button to remove the task.
    - A checkbox to mark the task as completed (when checked, apply the line-through effect).
- If the task text is empty, do not allow the task to be added.

Note: You can use bootstrap styling or custom styling to solve the problem.

The below screenshot is attached here for the reference where a alert message appears on the screen on entering an empty task..



The screenshot displays a web application titled "Task Manager". It features a form with a text input field labeled "Enter a new task" and an "Add Task" button. Below the form, there is a list of three tasks: "task1", "task2", and "task3", each with a checkbox and a "Remove" button. On the right side of the application, a modal alert box is visible with the title "This page says" and the message "Please enter a task". The alert box has a blue "OK" button.

### Instructions:

- Posted on: 24/10/2024
- Due date: 30th October 2024 (11:59 PM)
- The assignment is available in the drive folder and in the moodle.
- The mode of submission is Moodle. Any other kind of submissions are not accepted.
- Please ensure you submit your html, css and javascript files as named below. If not this will be considered as a naming convention violation accordingly the marks will be deducted.
- Save all the scripts as:
  - Q1) first.html, style1.css, script1.js
  - Q2) second.html, style2.css, script2.js
  - Q3) third.html, style3.css, script3.jsPlease zip all your script files, and submit a single file named "<roll-no>.zip", where <roll-no> should be replaced with your IIT Dharwad roll number.
- If you have violated the naming convention then you will be awarded a **10%** penalty of your secured marks.
- There will be a 100% penalty for plagiarism.
- Introducing irrelevant code is considered as malpractice.
- Late submission files are not considered for evaluation.