

Lab – 04: Practicing JavaScript

Objective:

- Learning the concept JavaScript.
- Practice adding external JavaScript to HTML.
- Practicing JavaScript functions, loops, constructs, arrays, and objects.

Submission:

- Submission of your work must be made to your GitHub repository.
- All your code must be in a zip file with name your name and roll number as follows, **“Name-Roll-No.zip”**
- Submit a notepad file with the link of your repository.
- **Emailed submissions will not be accepted.**
- **Any plagiarized code will NOT be marked.**

Task:

Create an HTML and a JavaScript file named as **“javaScript.html”** and **“javaScript.js”**. Write JavaScript functions to perform the following tasks given below. Write comments in your work else it will not be checked. Moreover, you are ONLY allowed to use **external** JavaScript file.

1. Write a JavaScript code that takes an array of numbers and returns those elements which have a difference of 2.
2. Write a JavaScript code that takes numbers as inputs in the input field and calculates the area of a triangle and rectangle. Each arithmetic operation must have its own button and must display the result on the page.
3. Write a JavaScript code that implements a bubble sort.
4. Create an HTML sign up form (the number of input fields should be at least 3), and perform form validation using JavaScript, where input fields should not be **empty**, password length should be a **minimum of 8 characters**:
 - If any field is empty, the background of the input field becomes “salmon” and border color becomes red.
 - An alert should pop up which states that the input field is empty, or the password length is less than 8 characters.
5. Create a tip calculator, which takes the total amount billed (a 16% tax must be added to the total amount), a percentage of the quality (30% - Outstanding, 20% - Good, 15% - It was okay, 10% - Bad, 5% - Terrible) of service. The resulting tip should be a product of the total amount billed and the percentage of quality.