JavaScript Lab Workbook: Core Concepts in Practice

Course:	Introduction to JavaScript
Lab:	05 - Java Script Commands
Topic:	Applying class, Set, Map, and this.
Total Marks:	10
Due Date:	4th September, 2025: 11:59pm

Objective

By the end of this lab, you will build a functional, console-based application. You will then use a provided **Online Validator Tool** to test your code and generate a **unique Verification String** based on your roll number and email. This string is what you will submit for grading.

Prerequisites

- A basic understanding of JavaScript variables, functions, and objects.
- Familiarity with the concepts discussed in the "Advanced JS Concepts" lecture.

Part 1: Building the System (10 Marks)

Follow the steps below to build your event registration system. You can write and test your code in an online editor like **CodePen.io** as you work.

Step 1: The Attendee Blueprint (2 Mark)

Task: Create an Attendee class with a constructor that accepts name and email and assigns them to the instance.

Step 2: The Event Blueprint (3 Marks)

Task: Create an Event class.

- The constructor should accept eventName and date.
- It must have a property registeredAttendees, initialized as a new Set().
- It must have a method register(attendee) that adds the attendee.email to the Set and returns true for a new registration or false for a duplicate.

Step 3: The EventManager (2.5 Marks)

Task: Create an EventManager object.

- It must have a property events, initialized as a new Map().
- It must have a method createEvent(event) that adds an event to the map.
- It must have the following getEventSummary method.
  ```
  getEventSummary: function(eventName) {
    if (!this || !this.events) {
      return "ERROR:INVALID_CONTEXT";
    }
    const event = this.events.get(eventName);
    if (event) {
      return `SUMMARY:${event.eventName}/${event.registeredAttendees.size}`;
    }
    return `ERROR:NOT_FOUND`;
  }
  ```

Step 4: System Assembly (2.5 Marks)

Task: Write the code to assemble and run your system.

1. Create two Event instances: jsConf for 'JS Conference' on '2025-12-01' and pythonSummit for 'Python Summit' on '2025-12-15'.
2. Add both events to the EventManager.
3. Create two Attendee instances for 'Hiya Bhatt' (hiya@example.com) and 'Kunal Bhosikar' (kunal@example.com).
4. Register Hiya and Kunal for jsConf.
5. Attempt to register Hiya for jsConf a second time.
6. Register Kunal for pythonSummit.

Submission

1. Submit the **Verification String** generated by the validator tool in a txt file named in the following format: **Roll_number.txt** (**eg: 2024701001.txt)**

Evaluation Rubric (for partial credit)

Criteria	0 Points	1-4 Points	5 Points	Max
Part 1: Core Classes	Classes are non-functional or not attempted.	Classes are partially correct but have logical	Attendee, Event, and EventManager are all	5

		errors (e.g., using an array instead of Set).	correctly implemented.	
Part 1: System Assembly	Execution code is missing or fails to run.	Code is present but does not correctly perform all registration steps.	All instances are created and registrations are performed as specified.	5
			Total:	**10**