

ACTIVITY 1: CROSS-PLATFORM PROMPT BENCHMARKING LAB

OBJECTIVE: COMPARE HOW DIFFERENT AI MODELS GENERATE CODING SOLUTIONS.

Prompt (Use EXACT same prompt everywhere)

Act as a Senior Software Engineer.

Write a clean and optimized JavaScript function to:

- Remove duplicates from an array
- Preserve original order
- Handle edge cases (null, empty array)
- Add comments
- Include time complexity explanation

Return only the code.

RUN THIS PROMPT ON:

- ChatGPT
- Gemini
- Claude
- Perplexity
- grok AI

EVALUATE:

Platform	Code Cleanliness	Comments	Edge Cases	Optimization	Time Complexity Explained
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LEARNING:

- Code generation quality differs
- Some models ignore constraints
- Some models over-explain
- Prompt precision matters

ACTIVITY 2: WEB DEVELOPMENT UI GENERATION CHALLENGE

OBJECTIVE: LEARN HOW DETAILED PROMPTS IMPROVE UI OUTPUT.

Basic Prompt

Create a login page in HTML and CSS.

Prompt (Use EXACT same prompt everywhere)

Act as a Senior Frontend Developer.

Create a modern responsive login page using:

- HTML5
- CSS3
- Flexbox
- Clean typography
- Soft shadow effects
- Mobile responsiveness
- Proper form validation

Constraints:

- Clean and production-ready structure
- Separate CSS section
- Professional UI
- No external frameworks

Test on:

- **ChatGPT**
- **Gemini**
- **Claude**

Compare:

- **Which UI looks more professional?**
- **Which followed “no frameworks”?**
- **Which added responsiveness?**
- **Which gave better structure?**

- 1. More detail = better UI**
- 2. AI can act like a senior developer**
- 3. Prompting controls design quality**

ACTIVITY 3: RESUME ENGINEERING WITH AI (CAREER-FOCUSED)

OBJECTIVE: LEARN HOW TO CREATE PLACEMENT-READY RESUMES USING AI.

Basic Prompt

Create my resume.

Advanced Resume Prompt

Act as a professional resume writer.

Create a one-page ATS-friendly resume for:

- First year B.Tech student
- Skills: C++, HTML, CSS, JavaScript
- Projects: Portfolio Website, Calculator App
- Goal: Web Developer Internship

Include:

- Professional summary
- Skills section
- Projects with bullet impact points
- Clean formatting
- Strong action verbs
- ATS optimized keywords
- No unnecessary graphics

Output in clean markdown format.

Test on:

- **ChatGPT**
- **Gemini**
- **Claude**

Compare:

- **Which resume looks more professional?**
- **Which used strong action verbs?**
- **Which optimized for ATS?**
- **Which followed one-page rule?**

1. Resume prompting = career advantage

2. AI can enhance presentation

3. Structured input gives better results

ACTIVITY 4: PROMPT ENGINEERING FOR PORTFOLIO PROJECTS

OBJECTIVE: USE AI TO IMPROVE EXISTING CODING PROJECTS.

Prompt (Use EXACT same prompt everywhere)

Act as a Senior Software Architect.

Improve this project idea:

"A basic to-do list web app."

Enhance it by:

- Adding advanced features
- Suggesting scalability improvements
- Adding authentication idea
- Suggesting database structure
- Making it portfolio-worthy

Provide structured output.

Test on:

- **ChatGPT**
- **Gemini**
- **Claude**

Ask:

- Which AI suggested better scalability?
- Which gave industry-like features?
- Which was more practical?

Learning Outcome:

- AI can upgrade simple ideas
- Prompting helps think like an architect
- AI can act as mentor

Ask: Yourself

- **Which platform felt most developer-friendly?**
- **Did any AI ignore constraints?**
- **How can prompt engineering help in placements?**
- **Can AI replace developers or enhance them?**