

AI-Driven Development — 30 Days Challenge

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Task 2

Part A — Theory (Short Questions)

1. Nine Pillars Understanding

- **Why is using AI Development Agents (like Gemini CLI) for repetitive setup tasks Better for your growth as a system architect?**

Using tools like Gemini CLI for repetitive tasks saves time and energy, allowing you to focus on system design, logic building, and problem-solving to create production-level software as a system architect.

- **Explain how the Nine Pillars of AIDD help a developer grow into an M-Shaped Developer.**

With the Nine Pillars, developers no longer need to memorize separate domain patterns and can use an AI agent or SDD to maintain expertise across all domains

2. Vibe Coding vs Specification-Driven Development

- **Why does Vibe Coding usually create problems after one week?**

In vibe coding, we rely on intuition to write code, and if it works, we move on. That leaves scope for messing with the code, making it hard to maintain, and prone to bugs after a week.

- **How would Specification-Driven Development prevent those problems?**

In Specification-Driven Development, we define a specification, which means telling AI what to build, making test cases to make sure it's error-free

3. Architecture Thinking

- **How does architecture-first thinking change the role of a developer in AIDD?**

Architecture-first thinking changed the role of the developer from writing code to writing specifications, building design systems, and validating AI responses. With the help of AIDD, developers can now finally design systems at scale, which wasn't that easy before

- **Explain why developers must think in layers and systems instead of raw code.**

Developers must think in layers: Models → IDEs → Agents and systems. As AI can generate code now, developers' primary job is to ensure secure, scalable, and maintainable software

Part B — Practical Task (Screenshot Required)

- > generate a 1-paragraph specification for an email validation function that checks if an input contains "@" and a valid domain (e.g. .com, .org) also should return clear error messages
- The email validation function should accept a string input representing an email address and determine its validity based on two primary criteria: the presence of a single "@" symbol separating the local part from the domain, and a domain that includes at least one dot followed by a top-level domain (e.g., ".com", ".org"). The function must return a boolean indicating validity, alongside a string that is empty if the email is valid, or contains a clear, specific error message (e.g., "Email must contain an '@' symbol" or "Invalid domain format") if the email is invalid.

Part C — Multiple Choice Questions

- 1. What is the main purpose of Spec-Driven Development?**
B. Clear requirements before coding begins
- 2. What is the biggest mindset shift in AI-Driven Development?**
B. Thinking in systems and clear instructions
- 3. Biggest failure of Vibe Coding?**
B. Architecture becomes hard to extend
- 4. Main advantage of using AI CLI agents (like Gemini CLI)?**
B. Handle repetitive tasks so dev focuses on design & problem-solving
- 5. What defines an M-Shaped Developer?**
C. Deep skills in multiple related domains