

Name: Tuba Nafees

Task 02:

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Why is using AI Development Agents better for your growth as a system architect?

Part A

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?

Ans: It has transformed the coding journey from just writing syntax for application development to using intent for problem solving. Unlike vibe coding that uses just intuition without planning, Gemini CLI, using SDD employs planning, testing before code execution. This development shifts the role of developers or agent users from technicians to planners or architects.

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

Ans: M shape involves four deep legs, referring to the depth of understanding in front-end, back-end, database handling and DevOps. The two peaks (Referring to deep knowledge in the above areas) form four legs, with the middle dip representing broad understanding connecting all four areas. The nine-pillars orchestrate all the relevant areas of expertise in an agent system, helping developers to grow into an M-shaped developer.

2. Vibe Coding vs Specification-Driven Development

Why does Vibe Coding usually create problems after one week?

Ans: This occurs due to a lack of strategizing and testing the code before execution.

How would Specification-Driven Development prevent those problems?

Ans: By combining planning, testing and debugging strategies at the same platform (Gemini-CLI for instance).

3. Architecture Thinking

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

Ans: Developers are supposed to construct application systems with a proper intent by using prompt and context engineering rather than just writing syntax to achieve similar outcomes. While the latter requires technical skills, the former focuses more on planning and strategizing skills.

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

Ans: This approach allows developers to connect all essential components such as project structure, coding, UI, deployment, and scalability, enabling them to build a better, more robust product.

Part B



```
Windows PowerShell

> GEMINI

Tips for getting started:
1. Ask questions, edit files, or run commands.
2. Be specific for the best results.
3. Create GEMINI.md files to customize your interactions with Gemini.
4. /help for more information.

> Write a paragraph specification for an email validation function. Requirement: 1-Must Contain @ 2-Must contain a valid domain like .com or .org 3- Should return clear error messages if validation fails

The validateEmail function is designed to verify the format of a given email string. It must ensure the email contains exactly one "@" symbol, which acts as a separator between the local part and the domain. The function will also check that the domain part includes a valid top-level domain (TLD), such as ".com", ".org", or ".net", which must follow a period. If the email string fails validation, the function should return a clear and specific error message indicating the nature of the failure, such as "Email must contain an '@' symbol" or "Invalid domain name. Must contain a valid top-level domain (e.g., .com, .org)."
```

You are running Gemini CLI in your home directory. It is recommended to run in a project-specific directory.

```
> Write a 1-paragraph specification for an email validation function. Requirements: 1. Must contain "@".2. Must contain a valid domain like .com or .org.3. Should return clear error messages if validation fails.
```

no sandbox (see /docs) auto

MCQS:

B

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B

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