Advanced Curiosity Tasks (Style: "How Do Big Systems...")

Each task includes a research question, real-world application, and a search hint to guide them.

🔍 Task 1: "How Do Big Systems Store Data?"

Challenge:

- Search: Do apps like Instagram, Uber, or Amazon use **SQL databases** or something else?
- Summarize the kind of **database structure** big companies use and why.
- Try to find one that uses **SQL Server** specifically.

🔍 *Search hints:*

- “What database does Instagram use?”
- “SQL vs NoSQL in large applications”

🔍 Task 2: "Do Video Games Use Databases?"

Challenge:

- How do online games (like PUBG, Fortnite, etc.) store **player progress, points, and profiles**?
- Do they use SQL databases or something else?
- Find an example of a game that uses a **relational database**.

🔍 *Search hints:*

- “How do video games store player data?”
- “Relational databases in gaming industry”

🔍 Task 3: "Can a Database Work Without the Internet?"

Challenge:

- Search how databases are used in **offline systems**, like in **military bases** or **airplanes**.
- What kind of database do they use when no internet is available?
- Can SQL Server be used offline?

🔍 *Search hints:*

- "Offline SQL database use cases"
- "Can SQL Server run without internet?"

🔍 Task 4: "What Makes Online Stores So Fast?"

Challenge:

- How do e-commerce platforms (like **Amazon** or **Noon**) organize their product and order data for fast searching?
- Do they use **relational databases**, **cloud**, or both?
- What challenges do they face in storing millions of products?

🔍 *Search hints:*

- "How does Amazon store product data?"
- "SQL vs NoSQL for e-commerce websites"
- "Cloud database for online shopping platforms"

🔍 Task 5: "How Do Banks Protect Their Data?"

Challenge:

- Search how **banking systems** use databases to protect sensitive customer data.
- What database features help with **security and integrity**?
- Find one bank or financial system that uses **Oracle** or **SQL Server**.

🔍 *Search hints:*

- “Database security in banking systems”
- “Which database is used in banking?”
- “Oracle vs SQL Server in financial services”

🧠 **Task 6: "Draw Me the System!"**

Challenge:

- Based on what you know about **clients, application server, and DB server**, search for and draw a diagram that shows the **three-tier architecture**.
- Add a short explanation: what each layer does.

🔍 *Search hints:*

- “Three-tier architecture database diagram”
- “Client application database interaction example”