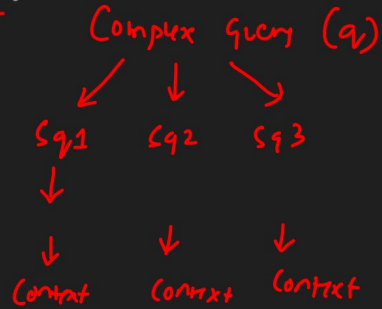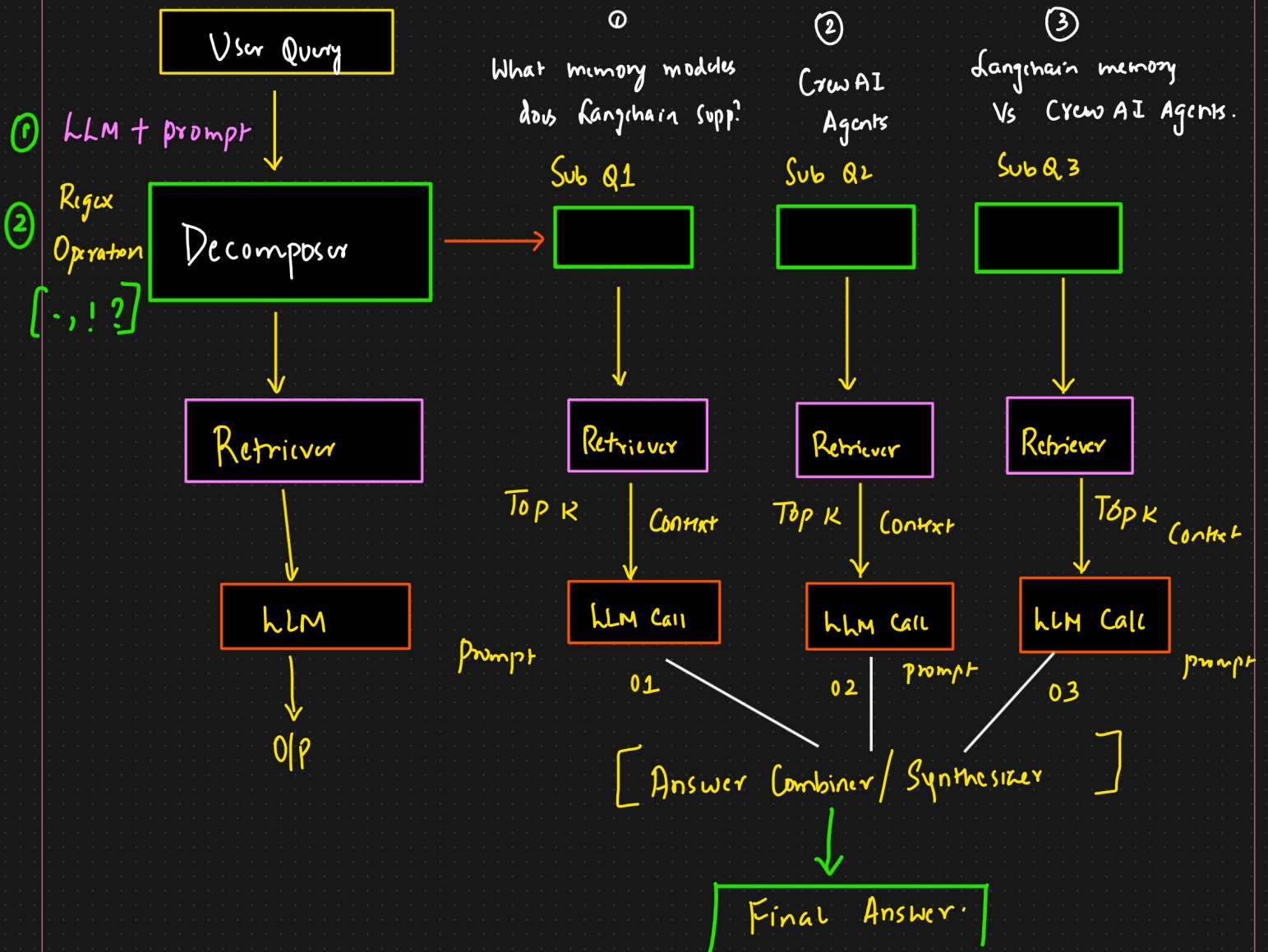# Query Enhancement

🧠 What is Query Decomposition?

Query decomposition is the process of taking a complex, multi-part question and breaking it into simpler, atomic sub-questions that can each be retrieved and answered individually.

✅ Why Use Query Decomposition?

- Complex queries often involve multiple concepts
- LLMs or retrievers may miss parts of the original question
- It enables multi-hop reasoning (answering in steps)
- Allows parallelism (especially in multi-agent frameworks) ←

Complex Query (q)

Sq1   Sq2   Sq3

Context   Context   Context

Q: What memory modules does Langchain support and how are they different CrewAI

① What memory modules does Langchain supp?

② CrewAI Agents

③ Langchain memory Vs Crew AI Agents.

| User Query | Sub Q1 | Sub Q2 | Sub Q3 |

① LLM + Prompt

② Regex Operation

[., ! ?]

Decomposer →

Retriever   Retriever   Retriever   Retriever

Top K   Context   Top K   Context   Top K   Context

LLM   LLM Call   LLM Call   LLM Call

Prompt   01   02   Prompt   03   Prompt

O/P

[Answer Combiner / Synthesizer]

Final Answer.

Major Disadvantage

1. LLM calls and Retrieval Call.