### What is LangGraph?

LangGraph is a framework designed to help developers create structured AI workflows using a graph-based approach. It is built on LangChain, a popular framework for working with large language models (LLMs). LangGraph enables multi-agent coordination, decision-making, and state management in AI-powered applications.

### Why Use LangGraph?

1. Graph-Based Execution: Allows for flexible workflows where steps (nodes) connect logically.
2. Multi-Agent Support: Lets multiple AI agents work together to complete tasks.
3. State Management: Keeps track of interactions across different steps.
4. Conditional Logic: Supports decision-making based on input data.
5. Scalability: Handles complex AI workflows with ease.

### How Does LangGraph Work?

LangGraph represents workflows as a directed graph where:

* Nodes represent tasks (e.g., LLM calls, API requests, database queries).
* Edges define the flow of data between nodes.
* State maintains information across the workflow.

### Example Use Cases

* AI Assistants: Coordinating multiple agents (e.g., research agent + writing agent).
* Conversational AI: Chatbots that follow structured dialogue flows.
* Data Processing Pipelines: Extracting, transforming, and analyzing data.
* Automated Decision Systems: AI workflows that respond based on conditions.