Workflow Agents

This section introduces "*workflow agents*" - **specialized agents that control the execution flow of its sub-agents**.

Workflow agents are specialized components in ADK designed purely for **orchestrating the execution flow of sub-agents**. Their primary role is to manage *how* and *when* other agents run, defining the control flow of a process.

Unlike LLM Agents, which use Large Language Models for dynamic reasoning and decision-making, Workflow Agents operate based on **predefined logic**. They determine the execution sequence according to their type (e.g., sequential, parallel, loop) without consulting an LLM for the orchestration itself. This results in **deterministic and predictable execution patterns**.

ADK provides three core workflow agent types, each implementing a distinct execution pattern:

>_ Sequential Agents

Executes sub-agents one after another, in **sequence**.

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>_ Loop Agents

Repeatedly executes its sub-agents until a specific termination condition is met.

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>_ Parallel Agents

Executes multiple sub-agents in **parallel**.

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Why Use Workflow Agents?

Workflow agents are essential when you need explicit control over how a series of tasks or agents are executed. They provide:

- **Predictability:** The flow of execution is guaranteed based on the agent type and configuration.
- **Reliability:** Ensures tasks run in the required order or pattern consistently.
- **Structure:** Allows you to build complex processes by composing agents within clear control structures.

While the workflow agent manages the control flow deterministically, the sub-agents it orchestrates can themselves be any type of agent, including intelligent LLM Agent instances. This allows you to combine structured process control with flexible, LLM-powered task execution.