DAILY INTERNSHIP REPORT

Date: 2nd July 2025
Intern Name: Ruchin Patel
Topics Covered:

1. **Types of Chains in LangChain**
2. **Introduction to Runnables and Their Importance**

WORK SUMMARY

- **Studied the concept of Chains in LangChain and explored all four main types: Simple Chain, Sequential Chain, Parallel Chain, Conditional Chain**
- **Understood the limitations of static chains and why Runnables were introduced to bring modularity and flexibility.**
- **Explored how Runnables act as a unified abstraction for chaining logic in LangChain pipelines.**

TECHNOLOGIES / TOOLS USED

- **LangChain Runnables API (invoke, .stream, .batch)**
- **Python, Jupyter Notebook**

WHAT I COMPLETED TODAY

- **Implemented all four chain types using LangChain:**
    - **Built a Simple Chain for basic prompt-response tasks**
    - **Used a Sequential Chain to combine multiple LLM tasks**
    - **Created a Parallel Chain to compare LLM outputs side-by-side**
    - **Designed a Conditional Chain for flow-based decision logic**
- **The choice between .invoke(), .stream(), and .batch() enables flexible execution based on real-time needs.**

WHAT I LEARNED TODAY

- **Chains are task pipelines, but Runnables offer more flexibility and composability.**
- **Runnables simplify pipeline design using .invoke(), .stream(), and .batch().**

CHALLENGES FACED

- **Minor confusion while transitioning from chain syntax to Runnable-based flow.**
- **Needed to adjust prompt templates to fit new structure.**

HOW I SOLVED / PLAN TO SOLVE CHALLENGES

- **Used official LangChain documentation and video examples to understand syntax mapping.**
- **Rewrote chain logic using RunnableSequence and RunnableBranch with proper testing.**

CODE / GITHUB LINK

https://github.com/Ruchin0203/Corp8-AI/tree/main/7.Chains