LangChain Assignment: Build an Intelligent Travel Assistant AI

Problem Statement:

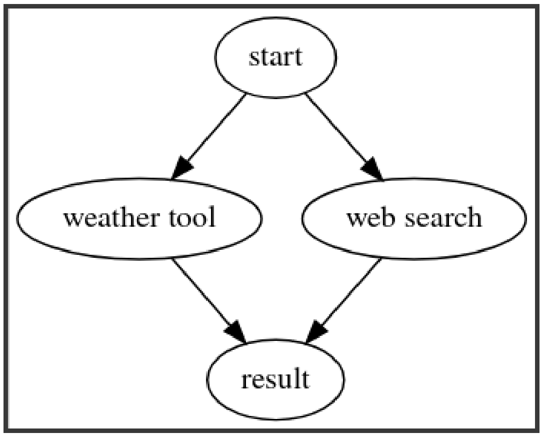
You are tasked with building an intelligent **Travel Assistant AI**. The assistant will help users find:

1. **Weather information** for their desired destination using a custom tool.
2. **Local attractions** or interesting places to visit.

Approach:

1. **LangChain Agent:**
    - Use the **search agent** to search for top tourist attractions in a city.
2. **Custom Tools: Weather Information and Top attractions**
    - Create a custom tool using LangChain's `@tool` decorator to fetch the **current weather forecast** for the destination.
    - Use **DuckDuckGo Agent or Tavily search** to search for top tourist attractions in a city.
3. **Create tool calling agent in Langchain**
    - Use lanchain's create_tool_calling_agent method to bind both the tools and create an agent and use AgentExecutor to invoke the agent.
4. **User Interaction:**
    - The user will input a **destination**, and the system will provide them with both the **weather forecast** and **top attractions** to visit in that location.

Architecture:



Steps to Follow:

1. **Install LangChain and Requests**

   If you don’t have LangChain and requests installed, you can install them via pip:
   pip install langchain request.

2. **Set Up LLM for Summarization**

   Use any LLM like OpenAI or Gemini for summarizing the results.

3. **Set Up for Weather**

   - Sign up for a free account on WeatherAPI.com to get your **API key**.

4. **Set Up Search agent**:

   - Use **DuckDuckGo Agent or Tavily search** to search for top tourist attractions in a city.

5. **Create a Custom Weather Tool**:

   - Create a function that fetches the weather forecast for the destination using **WeatherAPI.com**.

6. **Integrate Both Tools**:

   - Use lanchain’s create_tool_calling_agent method to bind both the tools and create an agent.
   - Use Agentexecutor to invoke the agent.

Expected Deliverables

1. **Code Submission**
   - A Python script or ipynb file implementing the **Travel Assistant agent** using LLM ,a web search tool and a weather tool.
2. **Report**
   - i. A brief explanation (in markdowns) describing how you used the LLM for reasoning. Explain how the reasoning step works.
   - ii. Explain code and flow of your program.