**Agentic AI - Assignment Submission**

**01 - Research Task**

**1. What are Large Language Models (LLMs)?**

Large Language Models (LLMs) are a type of artificial intelligence trained on massive datasets of text from the internet, books, and other sources. These models learn to understand and generate human-like language by predicting the next word in a sequence. They are built using advanced neural network architectures, such as transformers, which allow them to handle complex language patterns, context, and semantics.

**Examples of LLMs:**

* GPT (Generative Pretrained Transformer) by OpenAI
* LLaMA by Meta
* Claude by Anthropic

**Common Uses:**

* Chatbots and virtual assistants
* Text summarization
* Language translation
* Code generation

**2. What is Generative AI?**

Generative AI refers to AI systems that can create new content such as text, images, music, and code. These systems rely on models like LLMs or diffusion models to generate original outputs based on patterns learned during training. Generative AI is primarily reactive: it generates content when prompted but doesn’t take initiative or plan actions.

**Examples:**

* ChatGPT (text generation)
* DALL·E (image generation)
* Copilot (code generation)

**3. What is Agentic AI?**

Agentic AI goes beyond content generation by enabling AI systems to act as agents. An agent is a system that can make decisions, plan, and execute actions to achieve a goal. Agentic AI systems can access tools, manage memory, reason through multi-step tasks, and operate autonomously within set boundaries. They simulate decision-making and can interact with APIs, databases, or even other AIs.

**Key Features of Agentic AI:**

* Autonomy
* Goal-oriented behavior
* Planning and reasoning
* Tool use and memory

**Examples:**

* AutoGPT
* OpenAI Agents SDK
* Devin AI (AI software engineer)

**4. Difference Between Generative AI and Agentic AI**

| **Feature** | **Generative AI** | **Agentic AI** |
| --- | --- | --- |
| Output | Content generation | Goal-oriented action-taking |
| Autonomy | Low | High |
| Planning ability | Minimal | Has planning/execution loops |
| Tool use | Rare | Frequent (APIs, memory, etc.) |
| Examples | ChatGPT, DALL·E | OpenAI Agents SDK, AutoGPT |

**5. OpenAI's Agents SDK**

The OpenAI Agents SDK is a development toolkit designed to help developers build intelligent agents powered by LLMs. These agents can use tools, maintain memory, and operate in interactive environments to complete complex tasks.

**What it is:**

* A framework to create AI agents that interact with tools, remember past conversations, and take actions toward goals.

**Why we're using it:**

* It simplifies the process of building autonomous AI agents.
* It provides structured ways to use tools, memory, and planning.
* It is well-integrated with OpenAI's GPT models.

**Benefits:**

* Quick prototyping of intelligent systems
* Built-in memory and planning abilities
* Access to tools and APIs for real-world applications

**02 - Practical Task**

**Completed:** Steps 01 to 05 from the "[Learn Agentic AI - Step 01: ai\_agents\_first](https://github.com/panaversity/learn-agentic-ai/tree/main/01_ai_agents_first)" repository, up to "Hello Agent".

This included:

* Setting up the environment
* Exploring the agent structure
* Writing and running the "[Hello Agent](https://github.com/panaversity/learn-agentic-ai/tree/main/01_ai_agents_first/04_hello_agent)" example
* The hands-on experience helped solidify my understanding of how agents are structured and how the Agents SDK brings together LLMs, memory, and tool usage. You can view my completed practical assignment at the following repository link: [Insert your GitHub repo link here].

**Conclusion:**

Through this assignment, I’ve gained foundational knowledge of LLMs, Generative AI, and Agentic AI, along with practical experience using OpenAI’s Agents SDK. I now better understand the distinction between generating content and taking autonomous action, and how modern AI is evolving toward more capable, agentic systems.

**References:**

1. OpenAI (2024). *OpenAI Agents SDK Documentation*. Retrieved from: <https://platform.openai.com/docs/assistants/overview>
2. AssemblyAI (2023). *What Are Large Language Models (LLMs)?*. Retrieved from: <https://www.assemblyai.com/blog/what-are-large-language-models/>
3. Google AI Blog (2023). *What is Generative AI?*. Retrieved from: <https://blog.google/technology/ai/generative-ai/>
4. ZDNet (2023). *What is AutoGPT? Everything to Know About the Powerful AI Tool*. Retrieved from: <https://www.zdnet.com/article/what-is-autogpt-everything-to-know-about-the-next-powerful-ai-tool/>

I have also written a detailed [README](https://github.com/Okashanadeem/GIAIC/blob/main/Quarter%203/classes/class%2011/README.md) file in my repository which provides helpful insights and explanations about the practical steps I completed. This README can serve as an additional learning resource for anyone looking to understand the basics of Agentic AI, how the OpenAI Agents SDK works, and how to get started with it practically.