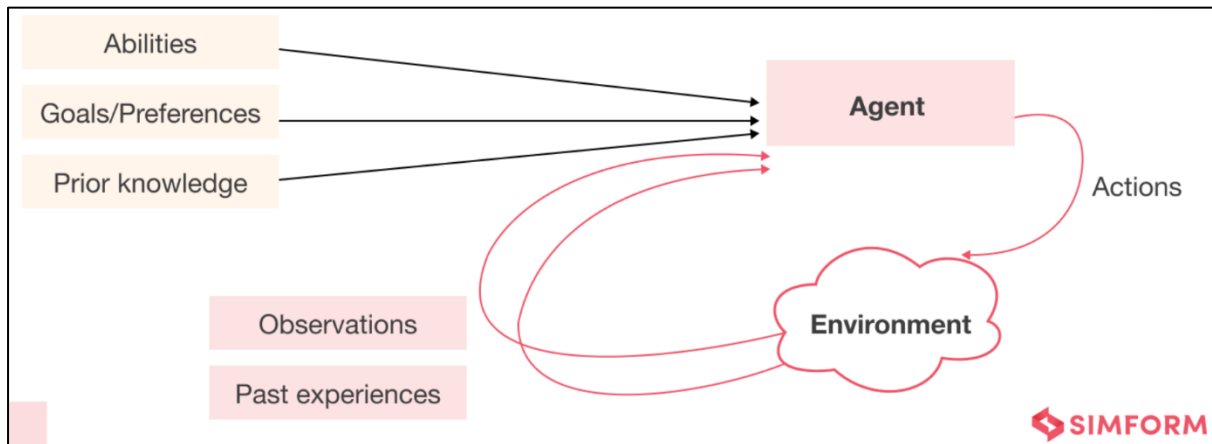


1. What is an AI Agent?

An **AI agent** is like a **smart assistant** that can **perceive its environment**, make **decisions**, and **take actions** to achieve a goal.



Key Characteristics:

1. **Autonomous:** It can operate on its own without constant human input.
2. **Goal-Oriented:** It tries to achieve specific objectives.
3. **Perceptive:** It can observe or receive input (like text, images, or sensor data).
4. **Decision-Making:** It uses logic, rules, or learning to decide what to do.
5. **Action-Taking:** It can perform tasks (like sending emails, writing code, or controlling a robot).

Example:

Imagine a **robot vacuum cleaner**:

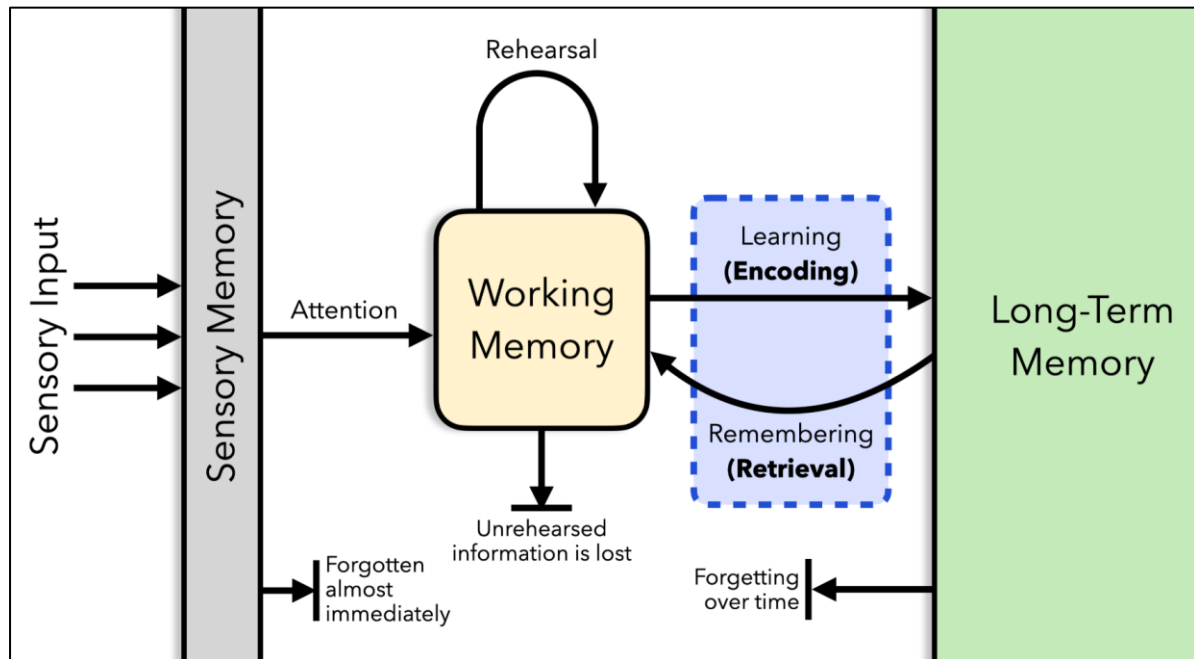
- It senses dirt (perception),
- Plans a path (decision-making),
- Moves and cleans (action),
- Avoids obstacles (reactive behavior).

In software, an AI agent could be:

- A chatbot that answers questions.
- A recommendation engine that suggests movies.
- A trading bot that buys/sells stocks.

2. What is Memory for an AI Agent?

Memory in AI agents is like a **brain that remembers things** over time. It helps the agent **learn from the past, adapt, and improve**.



Types of Memory:

1. Short-Term Memory:

- Temporary.
- Used during a single task or conversation.
- Example: Remembering your last question in a chat.

2. Long-Term Memory:

- Persistent.
- Stores knowledge, facts, or user preferences.
- Example: Remembering your name is Prajakta or that you work in Bengaluru.

3. Episodic Memory:

- Remembers specific events or interactions.
- Like a diary of what happened and when.

4. Semantic Memory:

- Stores general knowledge (e.g., "Paris is the capital of France").

Why Memory is Important:

- Makes conversations more natural.
- Helps agents personalize responses.
- Enables learning from past mistakes or successes.

3. What are the Tools of an AI Agent?

Tools are **external capabilities** that an AI agent can use to **extend its power**. Think of them like **apps or plugins**.

Common Tools:

1. Web Browsing/Search:

- To look up real-time information.
- Example: Searching for latest news or weather.

2. Code Execution:

- To run Python or other code.
- Useful for calculations, data analysis, or automation.

3. Image Generation/Understanding:

- To create or analyze images.
- Example: Generating a diagram or reading a chart.

4. APIs:

- Connect to external services (e.g., Google Maps, databases, email systems).

5. File Handling:

- Read, write, or modify documents, spreadsheets, etc.

6. Memory Access:

- Retrieve or store user-specific data.

Analogy:

If the AI agent is a person, tools are like:

- A **smartphone** (for searching),

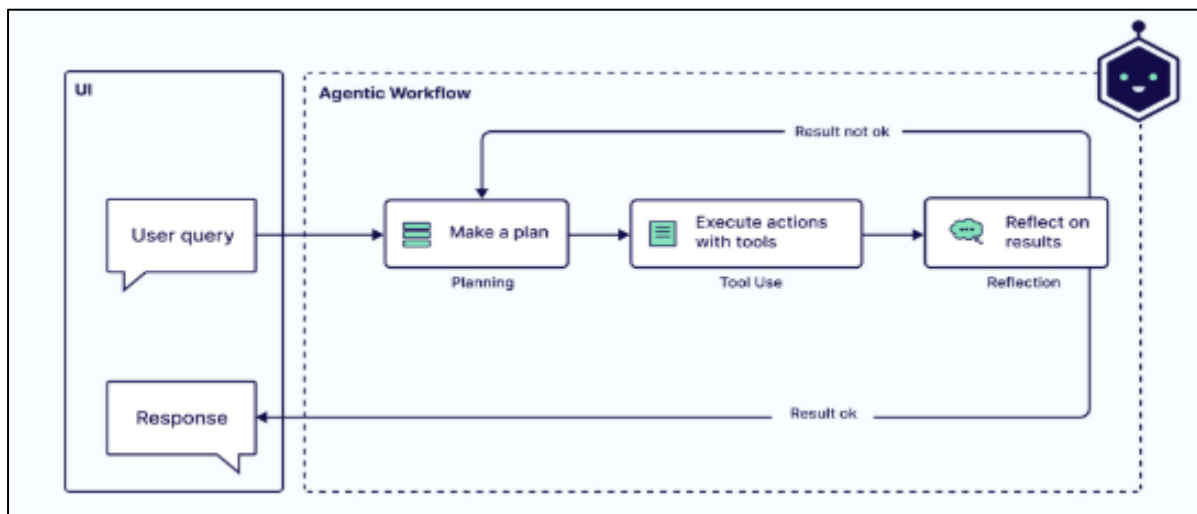
- A **calculator** (for math),
- A **camera** (for images),
- A **notebook** (for memory).

4. What is Agentic AI?

Agentic AI refers to **AI systems that act like full-fledged agents** — they can **plan, reason, and act autonomously** over time to achieve complex goals.

Key Features:

1. **Autonomy:** Works independently, not just reacting to commands.
2. **Planning:** Can break down big goals into smaller tasks.
3. **Tool Use:** Uses tools to complete tasks (like browsing, coding, etc.).
4. **Memory:** Remembers past actions and learns from them.
5. **Reflection:** Can evaluate its own performance and improve.



Example:

Imagine you say:

“Book me a trip to Goa next weekend.”

A **basic AI** might just search flights.

But an **agentic AI** would:

- Check your calendar,
- Find flights and hotels,

- Compare prices,
- Book the best option,
- Send you the itinerary.

All **without needing step-by-step instructions**

Summary Table:

CONCEPT	DESCRIPTION
AI AGENT	A system that perceives, decides, and acts to achieve goals.
MEMORY	Helps the agent remember past interactions, facts, and learn over time.
TOOLS	External capabilities like search, code execution, image analysis, etc.
AGENTIC AI	Advanced AI that plans, reasons, uses tools, and acts autonomously.