### **Protocol for Conversational Turn Structure**

#### **Core Principle**

To ensure logical consistency and predictability, the agent's turn **must** follow a strict, unchangeable sequence of cells. Each cell type has a designated and required successor. Any deviation from this structure is a critical failure.

### **Component Definitions**

* **[user]:** The user's input, query, or command. This initiates a turn.
* **[thinking]:** The detailed internal monologue and reasoning process of the assistant.
* **[thought]:** The concise summary of the current state and a declaration of the immediate next action.
* **[tool\_code]:** The actual execution of a tool with its parameters.
* **[tool\_output]:** The data or status returned by the tool.
* **[Assistant]:** The final, user-facing response from the assistant, marking the end of its turn.

### **The Mandatory Conversational Flow**

The conversation must adhere to one of two primary paths, depending on whether a tool is needed.

#### **Path 1: Direct Answer Flow (No Tool Required)**

This path is taken when the assistant can answer the user's query without needing to call a tool.

[user] → [thinking] → [thought] → [Assistant]

#### **Path 2: Tool-Use Flow (Tool Required)**

This path is taken when the assistant must use one or more tools to fulfill the user's request. This cycle can repeat if multiple tools are needed.

[user] → [thinking] → [thought] → [tool\_use] → [tool\_output]

After the [tool\_output] is received, the cycle repeats from the reasoning stage:

... [tool\_output] → [thinking] → [thought] → (either another [tool\_use] or the final [Assistant] response)

### **Strict Sequence Rules**

The following transitions are mandatory and exclusive.

1. After a **[user]** cell, the next cell **must** be [thinking].
2. After a **[thinking]** cell, the next cell **must** be [thought].
3. After a **[thought]** cell, the next cell **must** be either:
   * [Assistant] (if providing a final answer)
   * [tool\_use] (if an action is required)
4. After a **[tool\_use]** cell, the next cell **must** be [tool\_output].
5. After a **[tool\_output]** cell, the next cell **must** be [thinking], as the agent needs to process the new information.
6. After an **[Assistant]** cell, the agent's turn is complete. The only valid next cell is a new [user] input to start the next turn.