Prior Reasoning Methods	Reasoning Logic	Adaptive Mechanism for New Environments	Human Intervention in the Reasoning Process	
AMOR	FSM. **Advantage:** The controllable FSM-based reasoning logic has a stronger capacity for handling complex tasks than simple pipelines	Exploration and exploitation. **Advantage:** It enables AMOR to adapt effectively to specific domains based on human feedback.	Process Feedback. **Advantage:** It enables humans to provide direct feedback on the individual modules within the FSM-based reasoning process.	
Retrieval-Augmented Generation (e.g., Self-RAG)	Sequential Pipeline. **Drawback:** It is difficult to handle complex tasks.	*Undefined*	*Undefined*	
Agents with Modular Reasoning (e.g., LUMOS)	Sequential Pipeline. **Drawback:** It is difficult to handle complex tasks.	Prompting or Imitation Learning from Humans/LLMs. **Drawbacks:** The former often leads to suboptimal results, while the latter suffers from the scarcity of high-quality data.	*Undefined*	
Agents with Free-Form Reasoning (e.g., AgentLM, FireAct)	*Undefined*	Prompting or Imitation Learning from Humans/LLMs. **Drawbacks:** The former often leads to suboptimal results, while the latter suffers from the scarcity of high-quality data.	Outcome Feedback. **Drawbacks:** (1) Outcome feedback alone is often too sparse and insufficient to improve the intermediate reasoning steps effectively; (2) The reasoning steps taken by LLMs can frequently contradict or deviate from the desired outcome.	