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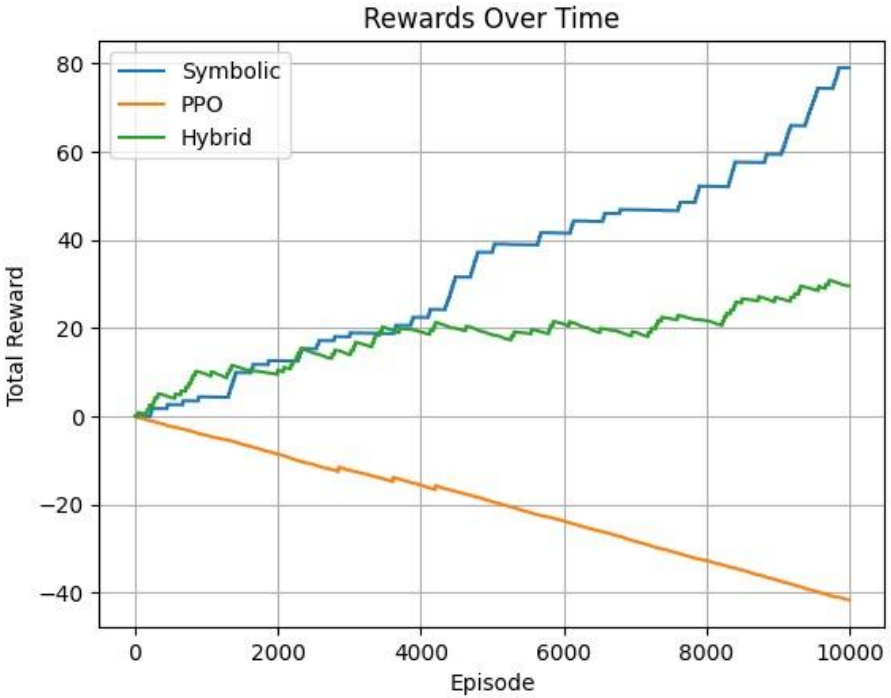
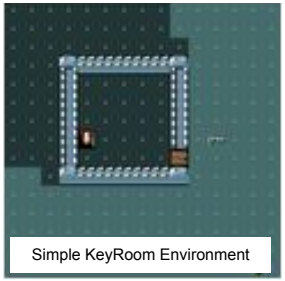
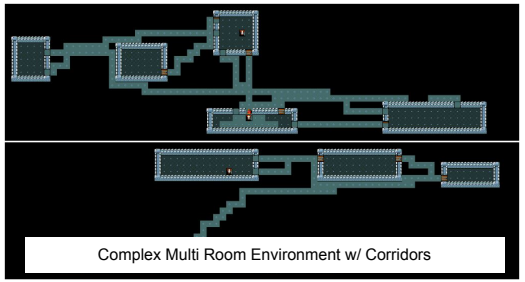
LuckyMera

LuckyMera: a modular AI framework for building hybrid NetHack agents.







Caption: This figure compares the cumulative rewards achieved over 10,000 episodes by three agents in a key-retrieval environment: a symbolic (hard-coded) agent, a reinforcement learning (PPO) agent, and a hybrid of the two. It demonstrates that symbolic logic significantly outperforms PPO in this simple, fully observable environment. However, the hybrid agent shows promise by outperforming PPO and maintaining more stable performance, suggesting potential for scalability. This supports our broader motivation: while symbolic agents excel in low-complexity settings, hybrid and RL approaches may generalize better in high-dimensional or partially observable tasks.

Next Steps: Right now, our hybrid agent is simply alternating between PPO and the Symbolic agent at a 50/50 rate. We want to investigate how to optimize this balance in order to call upon the symbolic agent in very specific scenarios. We also believe PPO may perform better in “dark” scenarios, where the agent is unaware of critical locations (key, door, etc), so we aim to test that