**ACTIVITY #2**

**Type of activity: Complete sentence activity**

**Complete Sentence Activity: Reinforcement Learning in Games and Entertainment**

1. Complete the Sentence: Reinforcement learning is gaining popularity as one of the branches of \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

2. Complete the Sentence: In reinforcement learning, the Agent, Goal, and Reward are essential elements in defining tasks in the \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

3. Complete the Sentence: The rider in the food delivery example is considered the \_\_\_\_\_\_\_\_\_\_\_\_ in the reinforcement learning task.

   - Answer:

4. Complete the Sentence: In the game Mario Brothers, the character needs to achieve goals by performing a predefined set of \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

5. Complete the Sentence: The formal mathematical definition of reinforcement learning involves the agent taking a random action at \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

6. Complete the Sentence: Automated game testing using reinforcement learning can reduce the need for extensive manual gameplay testing by \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

7. Complete the Sentence: Challenges in implementing reinforcement learning in the gaming industry include the unpredictability of reinforcement learning \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

8. Complete the Sentence: Game developers can apply reinforcement learning to non-critical aspects of the game, such as testing on \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

9. Complete the Sentence: Companies like OpenAI and DeepMind Lab provide tools and platforms to help engineers develop and test \_\_\_\_\_\_\_\_\_\_\_\_.

   - Answer:

10. Complete the Sentence: Unity and Unreal provide easy-to-integrate reinforcement learning libraries to their respective \_\_\_\_\_\_\_\_\_\_\_\_.

    - Answer: