Group 1: Assignment 7.1

Possible Metrics Aside from Evaluations/sec

1. **Nodes Visited**
    - **Definition**: The total number of nodes in the game tree that were visited during the search process.
    - **Calculation**: Count each node that the algorithm evaluates during the search.
    - **Reason for Use**:
        - Provides insight into the thoroughness of the search.
        - Indicates the algorithm's ability to explore the game tree comprehensively.
        - Helps to understand the complexity and depth of the search process.
2. **Time per Move**
    - **Definition**: The average time taken to decide on the best move during the game.
    - **Calculation**: Measure the elapsed time from the start of the move evaluation to the selection of the best move.
    - **Reason for Use**:
        - Reflects the efficiency of the algorithm.
        - Important for real-time applications where decisions need to be made within a limited time frame.
        - Allows comparison of different algorithms' performance in time-constrained scenarios.
3. **Memory Usage**
    - **Definition**: The amount of memory consumed by the algorithm during the search process.
    - **Calculation**: Monitor the memory allocation and usage by the process throughout its execution.
    - **Reason for Use**:

  - Essential for evaluating the scalability of the algorithm.
  - Helps in identifying memory bottlenecks and optimizing resource usage.
  - Crucial for deploying the algorithm on devices with limited memory capacity.

4. **Win Rate**

   - **Definition**: The percentage of games won by the algorithm over a series of matches.
   - **Calculation**: Divide the number of games won by the total number of games played, and multiply by 100 to get the percentage.
   - **Reason for Use**:
     - Directly measures the effectiveness of the algorithm in achieving its goal (winning the game).
     - Useful for comparing the competitive strength of different algorithms.
     - Indicates the practical performance of the algorithm in real game scenarios, complementing other technical metrics.