

Task	Deterministic (D) vs Stochastic (S)	Episodic (E) vs Sequential (S)	Static (S) vs Dynamic (D)	Discrete(D) vs Continuous (C)	Fully Observable (F) vs Partially Obs. (P)	Single Agent (S) vs Multi Agent (M)
Playing Soccer	Stochastic	Sequential	Dynamic	Continuous	Partially Observable	Multi Agent
Brushing your teeth	Stochastic	Sequential	Static	Continuous	Partially Observable	Single Agent
Playing tennis match	Stochastic	Sequential	Dynamic	Continuous	Partially Observable	Multi Agent
Practicing tennis against wall	Deterministic	Sequential	Static	Continuous	Fully Observable	Single Agent
Deciding item to take at lunch	Deterministic	Sequential	Static	Discrete	Fully Observable	Single Agent

Task: Playing Soccer

Reasons:

- 1.) Deterministic: While playing soccer, the next state of the environment cannot be accurately determined, there is a probability that can be assigned to the future actions that could maximise the chances of scoring a goal.
- 2.) Sequential: The next action while playing football depends on the previous state of the ball and the previous positions of team mates and opponents and the current action can affect the course of future events; hence it is a sequential task.
- 3.) Dynamic: The opponents and team mates position is continuously varying so the optimal decision for scoring a goal is variable with time.
- 4.) Continuous: There are infinite possibilities for scoring a goal. The speed, direction and range at which the ball is passed to other team members and with which it is hit in the goal post can be assigned a continuous set of values.
- 5.) Partially Observable: When a person is playing football, he cannot estimate what his opponents are thinking and how are they going to react to the decision taken by the player; hence we do not have complete information about the environment.
- 6.) Multi Agent: The game of football is played against an opponent hence it requires at least two persons, thus it is a multi-agent game. Generally, it is played by twenty two players.