

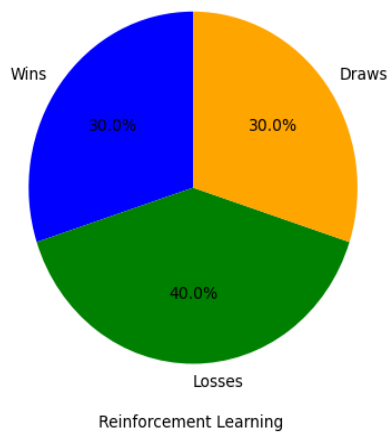
## REPORT ON MINIMAX ALGORITHM AND REINFORCEMENT LEARNING

CASE I: when human player is playing first:-

Total matches-20

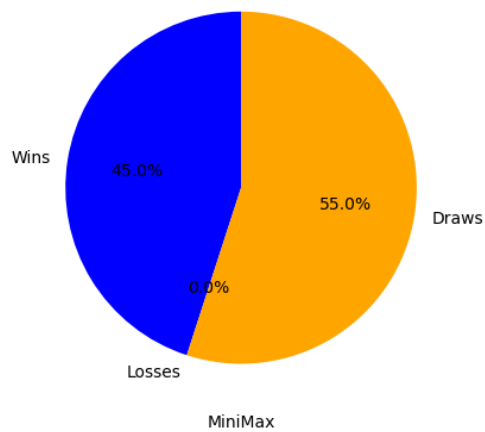
	MiniMax	R.L	Observation
Win	9	6	The Minimax algorithm either wins or draws the game.
Loss	0	8	
Draw	11	6	

Human vs AI: Wins, Losses, and Draws (Player plays first)



Reinforcement Learning

Human vs AI: Wins, Losses, and Draws (Player plays first)



MiniMax

The minimax algorithm is designed to play the game optimally assuming the opponent plays optimally as well.

The Minimax algorithm always tries to maximize the score.

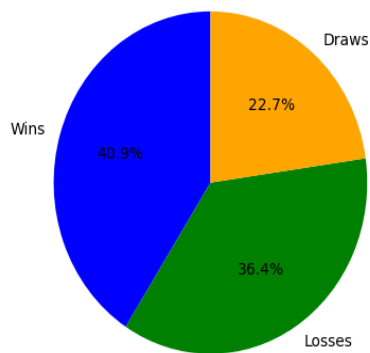
Case-II: when the computer is playing first.

Total matches-20

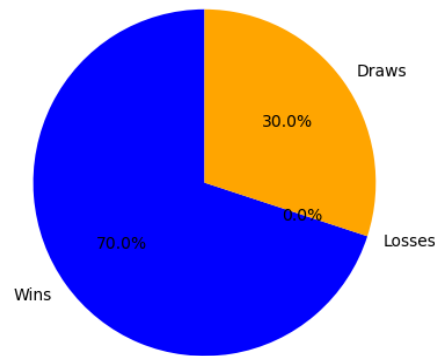
	MiniMax	RL	Remark
Win	14	9	In this case also, either the minimax algorithm is winning or drawing the game.
Loss	0	8	
Draw	6	5	

Human vs AI: Wins, Losses, and Draws (Computer plays first)

Human vs AI: Wins, Losses, and Draws (Computer plays first)



Reinforcement Learning



MiniMax

#### OBSERVATION:-

Minimax- I was never able to win the game while playing. The algorithm is always choosing the best move. Max to max it was trying to draw the game but never lose the game in both the cases.

Reinforcement- I was able to win the game. However, observations differ while changing the value of the learning rate.