AI Assignment -2 Report

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I have played 9 rounds of the Tic - tac - toe game with each algorithm and noted the result (Pankaj vs Computer).

Reinforcement Learning Result,

Rounds	Winner	Remark
Round - 1	Pankaj	I won in 6th move
Round - 2	Pankaj	I won in 6th move
Round - 3	Computer	The Computer won because. I have made a mistake.
Round - 4	Computer	This time the computer won intelligently
Round - 5	Draw	There was equal effort from both sides (No one won).
Round - 6	Pankaj	I won in 4th move
Round - 7	Computer	The computer won in the 5th move.
Round - 8	Draw	There was equal effort from both sides.
Round - 9	Draw	There was equal effort from both sides.

Conclusion -

Humans have won 3 times and the computer won 3 times and drawn 3 times . This shows balanced competition between humans and computers. However the algorithm may benefit from further optimization.

Min - Max Algorithm Result ,

Rounds	Winner	Remark
Round - 1	Draw	Both have put in equal effort.
Round - 2	Draw	Both have put in equal effort.
Round - 3	Draw	Both have put in equal effort.
Round - 4	Draw	Both have put in equal effort.
Round - 5	Computer	This time the computer won because the human made a mistake.
Round - 6	Draw	Both have put in equal effort.
Round - 7	Computer	This time the computer won because the human made a mistake.
Round - 8	Computer	This time the computer won because the human made a mistake.
Round - 9	Draw	Both have put in equal effort.

Conclusion -

They have won 3 times and draw 6 times. This shows that a computer has a strong strategy. The computer is not going to lose either win or draw. Humans can make mistakes thrice in a 9 rounds game but the computer is not going to make mistakes. So, we can say that min-max is a better approach than reinforcement.