

Abstract:

Tic-Tac-Toe Game is a very popular game played by two participants on the grid of 3 by 3. A special symbol (X or O) is assigned to each participant to indicate that the slot is covered by the respective participant. The winner of the game is the participant who first cover a horizontal, vertical or diagonal row of the board having only their symbols. This paper proposed a winning strategy of Tic-Tac-Toe game and its computation is proved theoretically by the concepts of Theoretical Computer Science using multi-tape ~~turing~~ machine. This algorithm is designed for computer as a player in which computer act according to the intelligence of model to maximize the chances of success.

The human player can makes its own choices. Any of the player can play first by their choice. The computation rules ensures selection of best slot for computer that will lead to win or prevent opponent to make a winning move. This is extended work of the paper "The Winner Decision Model of Tic-Tac-Toe Game by using Multi-Tape Turing Machine". The contribution of this work is to design a strategy to play Tic-Tac-Toe game in which computer will never lose.

6:16 PM

4G 100%

Tic Tac Toe

SP Tic Tac Toe

X	O	O
X	X	O
		X

X has won

6:17 PM



Tic Tac Toe

SP Tic Tac Toe

O	X	X
O	O	X
X		O

O has won

