

TIC TAC TOE

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INTRODUCTION

Tic-tac-toe is a two-player game that is played on a 3×3 grid with X and O marks. The game is also known as noughts and crosses or Xs and Os. The goal of the game is to place three marks of the same kind in a horizontal, vertical or diagonal row. The game can be played on paper, computer or other media. If both players play optimally, the game will end in a tie.

WORKING

1. One of the player chooses 'O' and the other 'X' to mark their respective cells.
2. The game starts with one of the players and the game ends when one of the players has
3. one whole row/ column/ diagonal filled with his/her respective character ('O' or 'X').
4. The game is to be played between two people (in this program between
HUMAN and COMPUTER).

O	X	O
O	X	X
X	O	X

USES

- 1.Helps to deal with cognitive decline.
2. Helps to reduce stress.
3. Builds self-confidence in young children and old adults.
4. Increases immune system response (playing games with others).
5. A good form of mental stimulation for young kids and old adults.
6. Gets everyone away from their devices and screens.

All things considered

ADVANTAGES

1. Teaches strategy skills.
2. Develops logical thinking.
3. Improves the ability to concentrate and focus.
4. Teaches good sportsmanship.
5. Sets the foundation for learning more complex games.
6. Provides a simple and fun way for the family to bond.
7. Develops problem-solving skills.
8. Teaches patience (and turn-taking).
9. Spurs on the development of fine motor skills and coordination.
10. Teaches the importance of rules.

DISADVANTAGES

- 1.It can get boring knowing that you are going to win every single time.
- 2.The game usually takes less than a minute to play.
- 3.You usually need paper and a pencil/pen to play.
- 4.When you know how to win, the game isn't very challenging.
- 5.It can get boring if every game ends in a tie.
- 6.It takes a lot of space to store the table that specifies the correct move to make from each board position.
- 7.A lot of work is needed to specify all the entries in the Move-Table.
- 8.Difficult to extend to 4×4 puzzle.

FUTURE SCOPE

- Tic Tac Toe is a simple game that has been around for centuries. It is a game that is easy to learn and can be played by people of all ages. The game has a lot of potential for future development. Here are some possible future scopes of Tic Tac Toe:
 - 1.**AI-based Tic Tac Toe:** With the advancements in Artificial Intelligence, it is possible to create an AI-based Tic Tac Toe game that can learn from its mistakes and improve its gameplay. This would make the game more challenging and interesting for players.
 - 2.**Multiplayer Tic Tac Toe:** Multiplayer Tic Tac Toe is another possible future scope of the game. This would allow players to play against each other online, making the game more competitive and engaging.
 - 3.**3D Tic Tac Toe:** 3D Tic Tac Toe is a variant of the game that is played on a 3D board. This would add a new dimension to the game and make it more challenging for players.