Hex is a strategy board game played on a hexagonal grid, theoretically of any size and several possible shapes, but traditionally as an 11×11 rhombus. John Nash (one of the game's inventors) advocated 14×14 as the optimal size. Through the Hex Algorithm we can predict and counter the moves of the opponent and establish an all-time winning scenario. This self developed algorithm encompasses the use of Breadth-First-Search. Having visualized the whole 7 X 7 hex board as an array , the implementation of graph algorithms give us the desired result of obtaining a winning strategy . The basic game is that each player has an allocated color, conventionally Red and Blue. Players take turns placing a stone of their color on a single cell (hex) within the overall playing board. The goal for each player is to form a connected path of their own stones linking the opposing sides of the board marked by their colors, before their opponent connects his or her sides in a similar fashion. The first player to complete his or her connection wins the game

Since the first player to move in Hex has a distinct advantage, the pie rule is generally implemented for fairness. This rule allows the second player to choose whether to switch positions with the first player after the first player makes the first move.

**4.2 Strategy:**

The game can never end in a tie, a fact proved by John Nash the only way a player can prevent an opponent from forming a connecting path is to form their own path. In other words, Hex is a "determined" game.

Since the game cannot end in a tie so one player has to win the game so we use defensive strategy that is “I do not allow my opposition to win the game and the game cannot end in a tie so I win the game”.