**CAB402 Tic Tac Toe Assignment**

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**Introduction**

The focus of this assignment is to learn programming in a “*pure”* functional style and differentiate it with traditional styles impure and object-oriented paradigms. Minimax with & without alpha beta pruning game theory concepts, heuristic scores, and model was implemented in the Tic-Tac-Toe game.

Tic-tac-toe is a game for two players where each take turns placing a Nought (X) or a Cross (O) in a 3x3 grid. To win the game a player needs to place their marks in a vertical, horizontal or diagonal row. Otherwise the game is declared a draw when board is full without any straight rows.

**Experience**

My experience to functional programming in F# allowed me to explore a different style of programming that emphasizes the use of immutable data and functions.

Mutable vs immutable

Pipe functions

Sequences

Imperative programming

Operators

**Efficiency and Effectiveness of the three approaches**

Comparing the three approaches (F# pure functional, F# impure function and C# Object-oriented imperative).

Discuss efficiency and effectiveness of the three approaches.