

# Code Warriors

## **Othello :**

This year you have to let your programs fight it out on a battle board that would be decorated with the blacks and white pieces of the classic game *Othello*.

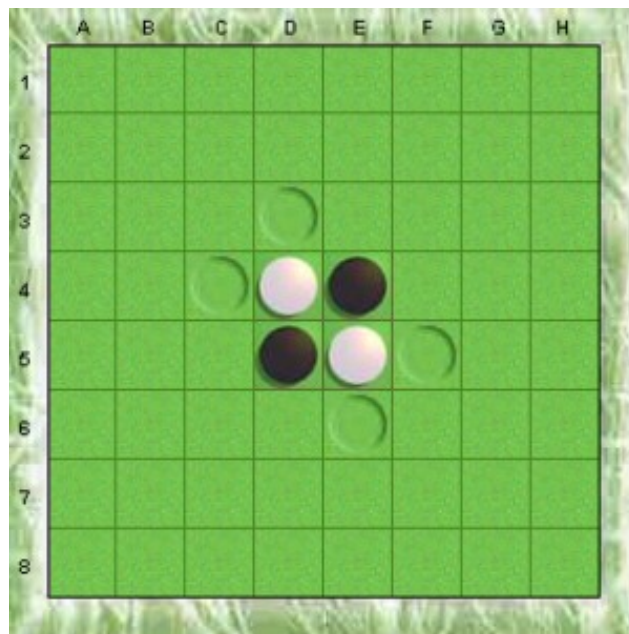
## **Introduction :**

Othello is a board game involving abstract strategy and played by two players on a board with 8 rows and 8 columns and a set of distinct pieces for each side. Pieces typically are disks with a light and a dark face, each side belonging to one player. The player's goal is to have a majority of their colored pieces showing at the end of the game, turning over as many of their opponent's pieces as possible.

In the 1970s, The Japanese game company Tsukuda Original registered the game under the trademark name *Othello*. The name was selected as a reference to the Shakespearean play *Othello*. Though this game was popular under the name *Reversi* in England in the 19th century, which was invented in 1883 by either of two Englishmen (each calling the other a fraud!), Lewis Waterman or John W. Mollett.

## **The Battlefield :**

The board has 8 columns and 8 rows. The starting position(with possible moves of the black pieces) is as shown in the image. The black and white pieces will be controlled by their respective players.



## **GAME RULES:**

Rules are same as standard Othello game which can be found at [http://worldothellofederation.com/rules\\_english.asp](http://worldothellofederation.com/rules_english.asp)

### What I have to do ?

You have to think of a strategy to play the game and code it so as to beat the opponent. Following links can be helpful:

[http://en.wikipedia.org/wiki/Game\\_theory](http://en.wikipedia.org/wiki/Game_theory)

[http://en.wikipedia.org/wiki/Game\\_tree](http://en.wikipedia.org/wiki/Game_tree)

Example of such a strategy is given “**Game Trees**” chapter of **Data structure using C/C++** by **Tenenbaum**. Go through this chapter for easy and lucid implementation of these strategy.

### Coding Rules:

You can code your bot in any language. But the following should be kept in mind.

1. It is a two player game and anyone can get a chance to start the game. If the first input read by your program is “ST” (quotes not included), then you have to start the game and play the first move else you are second player and will be given the move played by first player.
2. Your move will only consist of two characters, like A1,D4,C6 etc i.e the board position you are going to put your piece next.  
**Note:** Only capital letters are allowed and top-left cell is **A1 not A0**
3. Each time you print a move, don't forget to flush the stream. For flushing in C/C++ use **fflush(stdout)** just after printing the move.
4. In case you can't find any valid move, then print “PS” i.e you pass your turn.

A template file has been attached to get you started. You basically have to implement the strategicMove function.

### Judging rules:

1. A program is simply disqualified and opponent is declared winner if any of following conditions holds:

- An invalid move is generated by program which is a violation of Othello rules which also include passing your chance in case a valid move exist.
- Format of the moves generated is incorrect. Example : 2A, a2.
- A player should take maximum of two seconds from last input to generate the next move .
- Program terminated pre-maturely by any reason

2. The game will be finished when

- There are two consecutive passes by different players.
- All board places are filled.

In both the above conditions the player having maximum number of pieces will be declared winner. In case of tie the match is declared drawn.