

Tic-Tac-Toe

Tic-tac-toe is a two players' game: player X and player O. Both players take turns placing their mark (X or O) on the spaces in a 3×3 grid. The first player to place three of their marks in a horizontal, vertical, or diagonal row wins the game.

For this task you need to implement the Tic-tac-toe game in C++ as console application under the following guidelines:

1. Create a structure Statistics and three classes Player, Deck, and TicTacToe.
2. The structure Statistics is used to store players' game statistics. It must be created with three integer data members: won, drawn, and lost.
3. For the class Player, it must have the following private data members:
 - name (e.g. Alice, X, O ...etc.) (the data type is string)
 - playing_mark (X or O), (the data type is char 'X' or 'O')
 - stats is an instance of the structure StatisticsIt should implement the methods:
 - Player: the default class constructor
 - Player: an overloaded class constructor that accepts two parameters: name and playing_mark.
 - get_score() which should return ((won * 2) + draw - lost).
 - To print the object, you need to overload an ostream operator method that would print the player name, mark, and score in the format: "Player: John, Mark: X, Score: 120"
 - And for comparison, it should implement the (<, >, and ==) overloaded operator to compare players score.
4. For the class Deck, it must have the following data attributes:
 - board: a 3×3 board implemented as an array. It can be a flat array of 9 char items (all empty at the beginning) or a 2D array.
 - player_1_choices: an array of 9 integers that contains the indexes of cells that player 1 choose.
 - player_2_choices: an array of 9 integers that contains the indexes of cells that player 2 choose.It should also implement the following methods:
 - Deck: the default class constructor
 - To print the current board status overload an ostream operator and the output should be as:

| | | |
|-----|-----|-----|
| {0} | {1} | {2} |
| {3} | {4} | {5} |
| {6} | {7} | {8} |

5. The class TicTacToe must have the following attributes:
- deck_list: an array of 10 elements of objects of the Deck class, where the current Deck is the last item.
 - game_number: The number of the current game, it should be an integer between 0 and 9.
 - player_1: an instance of the class Player representing player 1.
 - player_2: an instance of the class Player representing player 2.