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// Tic-Tac-Toe Game.
import java.util.*;

public class GFG {

    static String[] board;
    static String turn;

    static String checkWinner()
    {
        for (int a = 0; a < 8; a++) {
            String line = null;

            switch (a) {
                case 0:
                    line = board[0] + board[1] + board[2];
                    break;
                case 1:
                    line = board[3] + board[4] + board[5];
                    break;
                case 2:
                    line = board[6] + board[7] + board[8];
                    break;
                case 3:
                    line = board[0] + board[3] + board[6];
                    break;
                case 4:
                    line = board[1] + board[4] + board[7];
                    break;
                case 5:
                    line = board[2] + board[5] + board[8];
                    break;
                case 6:
                    line = board[0] + board[4] + board[8];
                    break;
                case 7:
                    line = board[2] + board[4] + board[6];
                    break;
            }
            //For X winner
            if (line.equals("XXX")) {
                return "X";
            }

            // For O winner
            else if (line.equals("000")) {
                return "O";
            }
        }

        for (int a = 0; a < 9; a++) {
            if (Arrays.asList(board).contains(
                String.valueOf(a + 1))) {
                break;
            }
            else if (a == 8) {
                return "draw";
            }
        }

        // To enter the X Or O at the exact place on board.
        System.out.println(
            turn + "'s turn; enter a slot number to place "

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        + turn + " in:");
    return null;
}

// To print out the board.
/* |---|---|---|
| 1 | 2 | 3 |
|---|---|---|
| 4 | 5 | 6 |
|---|---|---|
| 7 | 8 | 9 |
|---|---|---|*/

static void printBoard()
{
    System.out.println("|---|---|---|");
    System.out.println(" | " + board[0] + " | " + board[1] + " | " + board[2]
        + " |");
    System.out.println("|-----|");
    System.out.println(" | " + board[3] + " | " + board[4] + " | " + board[5]
        + " |");
    System.out.println("|-----|");
    System.out.println(" | " + board[6] + " | " + board[7] + " | " + board[8]
        + " |");
    System.out.println("|---|---|---|");
}

public static void main(String[] args)
{
    Scanner in = new Scanner(System.in);
    board = new String[9];
    turn = "X";
    String winner = null;

    for (int a = 0; a < 9; a++) {
        board[a] = String.valueOf(a + 1);
    }

    System.out.println("Welcome to 3x3 Tic Tac Toe.");
    printBoard();

    System.out.println(
        "X will play first. Enter a slot number to place X in:");

    while (winner == null) {
        int numInput;

        // Exception handling.
        // numInput will take input from user like from 1 to 9.
        // If it is not in range from 1 to 9.
        // then it will show you an error "Invalid input."
        try {
            numInput = in.nextInt();
            if (!(numInput > 0 && numInput <= 9)) {
                System.out.println(
                    "Invalid input; re-enter slot number:");
                continue;
            }
        }
        catch (InputMismatchException e) {
            System.out.println(
                "Invalid input; re-enter slot number:");

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        continue;
    }

    // This game has two player x and O.
    // Here is the logic to decide the turn.
    if (board[numInput - 1].equals(
        String.valueOf(numInput))) {
        board[numInput - 1] = turn;

        if (turn.equals("X")) {
            turn = "O";
        }
        else {
            turn = "X";
        }

        printBoard();
        winner = checkWinner();
    }
    else {
        System.out.println(
            "Slot already taken; re-enter slot number:");
    }
}

// If no one win or lose from both player x and O.
// then here is the logic to print "draw".
if (winner.equalsIgnoreCase("draw")) {
    System.out.println(
        "It's a draw! Thanks for playing.");
}

// For winner -to display Congratulations! message.
else {
    System.out.println(
        "Congratulations! " + winner
        + "'s have won! Thanks for playing.");
}
in.close();
}
```