Institute of Arts and Sciences (Chiniot Campus)
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Project Report On

Tic Tac Toe Game

By

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1. Introduction

1.1 Purpose

The purpose of this report is to outline the requirements for a simple Tic-Tac-Toe game developed in x86 Assembly Language. This document ensures the game is built correctly and meets user needs.

1.2 Project Scope

This project creates a console-based Tic-Tac-Toe game for two players. The game will allow players to input moves, display the game board, determine the winner, or declare a tie.

1.3 Definitions

Tic-Tac-Toe

A game for two players who take turns marking a 3x3 grid with X or O.

x86 Assembly Language

A low-level programming language for x86 architecture.

DOS

Disk Operating System.

2. Overall Description

2.1 Product Perspective

This Tic-Tac-Toe game is a standalone console application for educational purposes, demonstrating x86 Assembly Language.

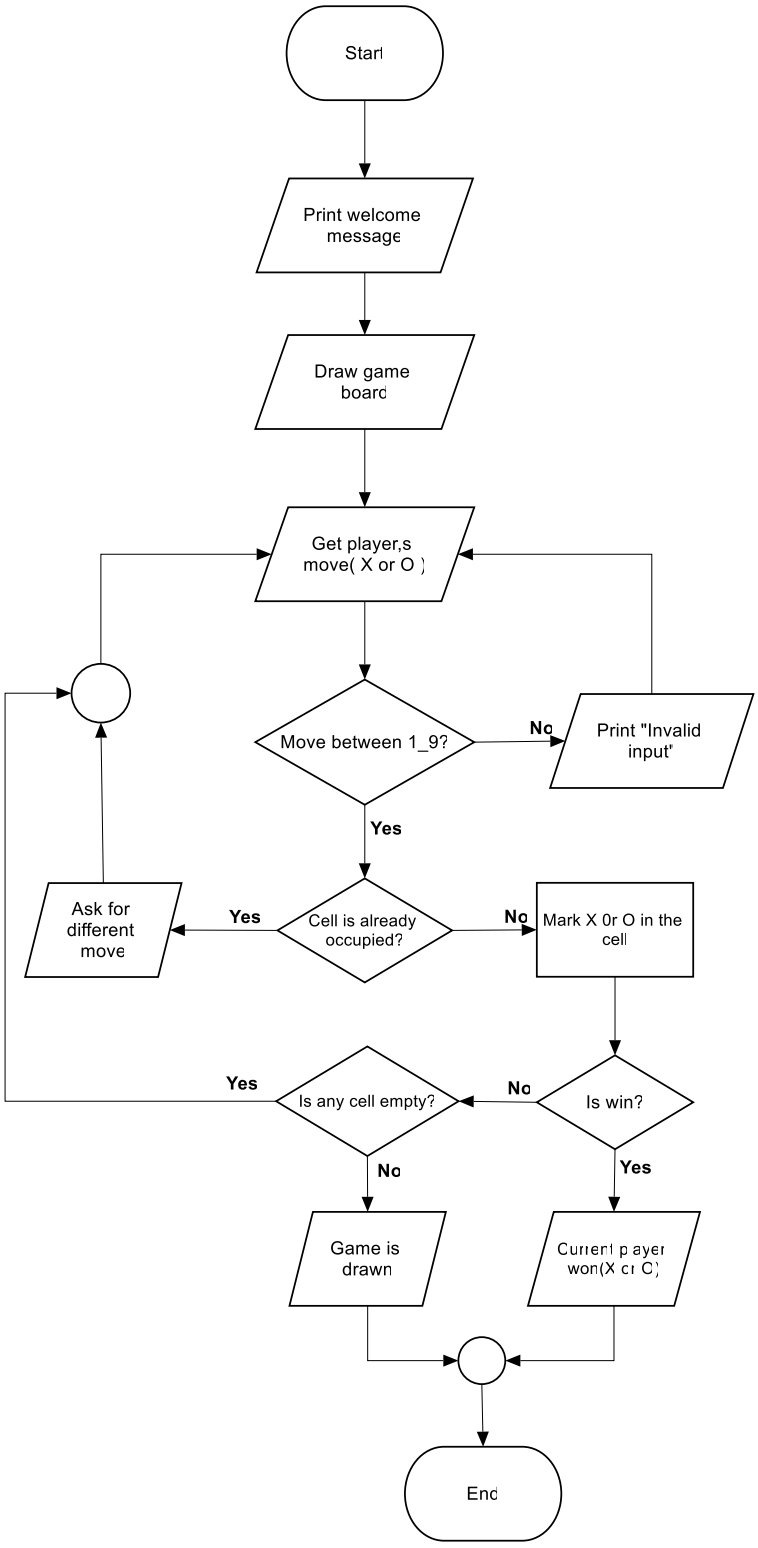
2.2 Product Features

- Display welcome message and instructions.
- Allow players to enter moves.
- Validate and update the game board.
- Display the game board.
- Check for a winner or tie.
- Announce the winner or declare a tie.

2.3 User Characteristics

Two players taking turns to play the game.

Flowchart


Start
Print welcome message
Draw game board
Get player,s move(X or O)
Move between 1_9?
No
Print "Invalid input"
Yes
Ask for different move
Yes
Cell is already occupied?
No
Mark X 0r O in the cell
Yes
Is any cell empty?
No
Is win?
No
Yes
Game is drawn
Current player won(X or O)
End

2.4 Operating Environment

The game runs in a DOS environment or DOS emulator (e.g., DOSBox).

2.5 Rules

- Each player takes a turn placing his character (X or O) into one of the nine squares.
- A player cannot place his symbol in a square that is already occupied by a symbol.
- The game ends when a player creates a winning combination of his symbols or when there are no empty squares remaining.
- Winning combination is defined as three horizontally adjacent, three vertically adjacent, or three diagonally adjacent symbols.
- If neither player creates a winning combination when all nine squares are occupied, the game is a draw.