

A decorative title card for a Tic-Tac-Toe game. The background is a light pink color with a large, faint, darker pink heart shape in the center. A grid of 10 rows and 10 columns of small red dots is overlaid on the heart. The title "Tic-Tac-Toe" is written in a large, white, rounded font with a thick pink outline, centered on the grid. The text is positioned between the second and ninth rows and the second and ninth columns. To the left of the grid, there is a vertical strip of five pink flowers with green leaves. The entire card is framed by a thick, wavy pink border. There are also several small pink dots and a pink swirl on the left side of the card.

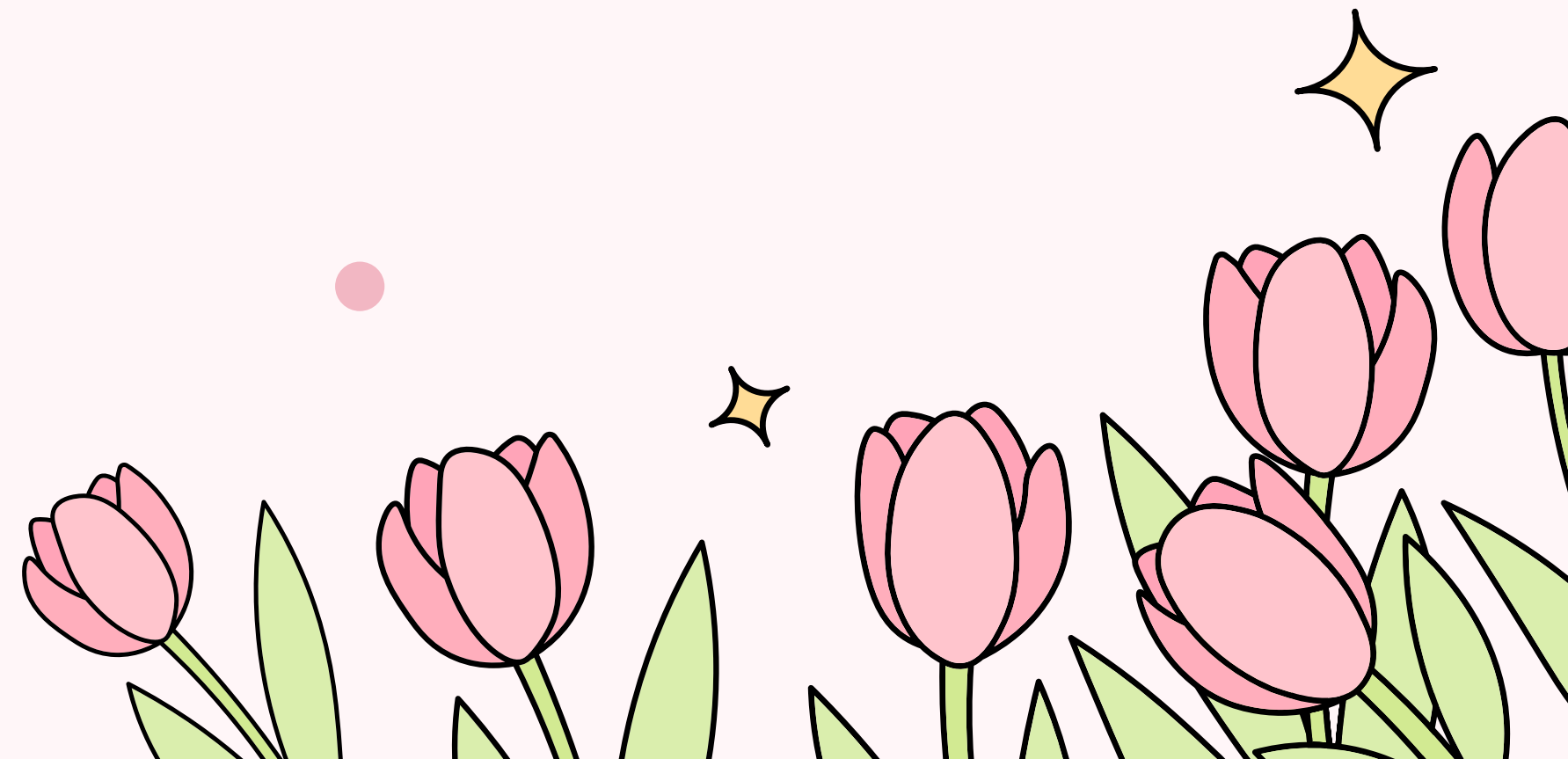
# Tic-Tac-Toe

# Our Team

Menna Baligh  
Section 6

Menna Hamada  
Section 6

Hagar AbdELSattar  
Section 7



# Problem Formulation



1- initial state : an empty  $3 \times 3$  board

2- Actions : put X or O in any empty cell

3-Transition model (Successor): after taking action the board is updated to reflect the new state

# Problem Formulation



4- Goal test : if a player has 3 X or O in a row or column or diagonal

5- Path cost : not critical the goal is to win or draw

# Agent Design (PEAS)



**P**erformance : win by selecting the move bring it closer to win and in the worst case the result is draw



**E**nvironment : 3\*3 tic-tac-toe board



# Agent Design (PEAS)



**Actuators:** An agent can mark any open square with their sign

**Sensors :** read the current state of the board and identify the legal moves

# Environment Properties (ODESDA)



1- fully observable

2- Deterministic

3- sequential

4- static

5- Discrete

6- Multi-Agent (competitive)

# Agent Type

Goal Based Agent



Thank  
You

