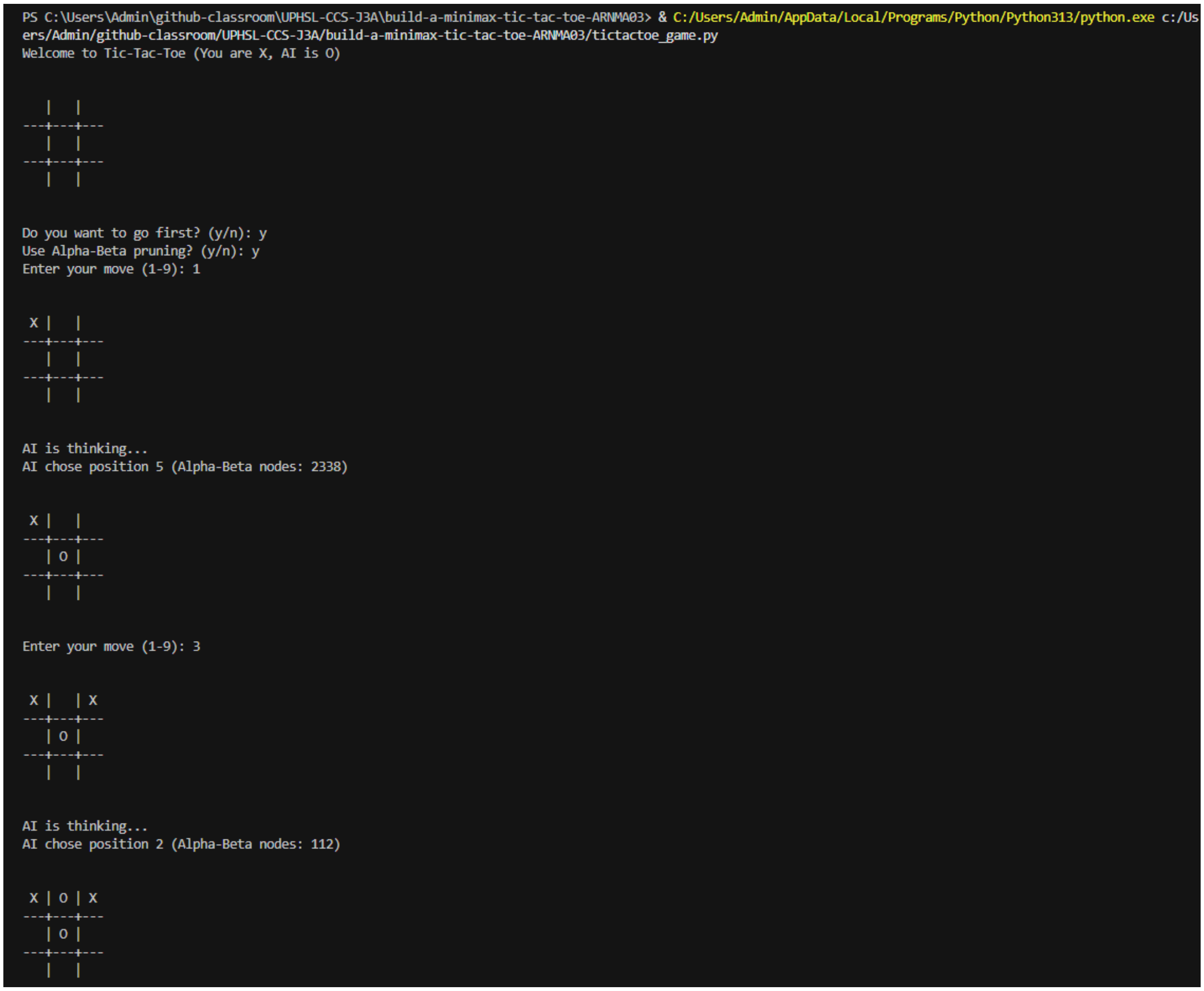
Minimax Explanation:

The Minimax algorithm is a way for the computer to think ahead and make the best move in a game. It tries to maximize its own chance of winning while minimizing the opponent's chance. The AI looks at all possible moves, predicts how the human player might respond, and then chooses the move that leads to the best possible outcome.

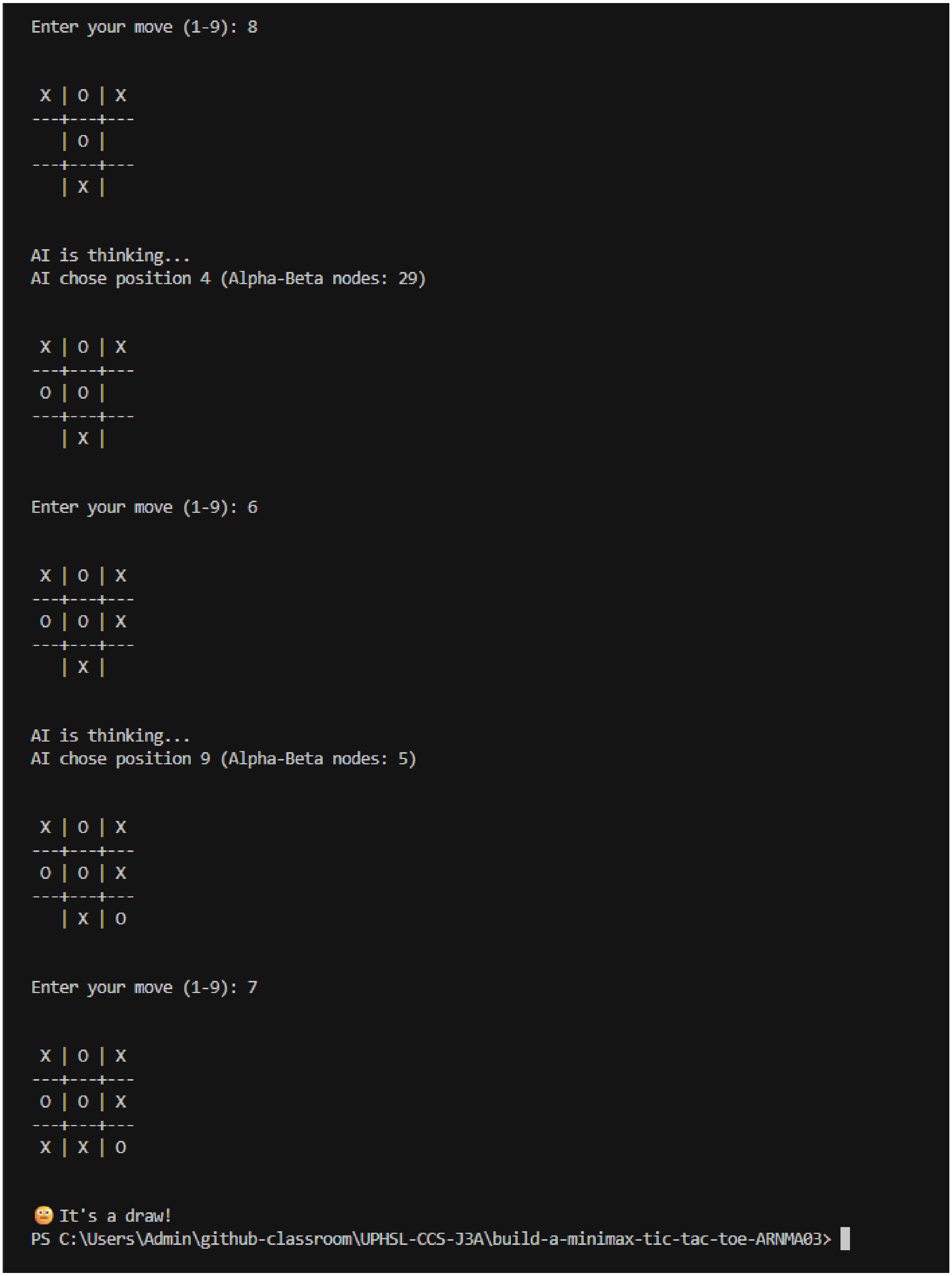
Insights:

This code helped me understand how the Minimax algorithm works, especially how it allows the AI to make smart decisions in Tic-Tac-Toe. However, I still find some parts a bit confusing, and I actually prefer the manual version of Minimax that uses the decision tree, since it's easier for me to follow and visualize the process.

Gameplay:



```
PS C:\Users\Admin\github-classroom\UPHSL-CCS-J3A\build-a-minimax-tic-tac-toe-ARNMA03> & C:/Users/Admin/AppData/Local/Programs/Python/Python313/python.exe c:/Us
ers/Admin/github-classroom/UPHSL-CCS-J3A/build-a-minimax-tic-tac-toe-ARNMA03/tictactoe_game.py
Welcome to Tic-Tac-Toe (You are X, AI is O)


   |   |
---+---+---
   |   |
---+---+---
   |   |


Do you want to go first? (y/n): y
Use Alpha-Beta pruning? (y/n): y
Enter your move (1-9): 1


 X |   |
---+---+---
   |   |
---+---+---
   |   |


AI is thinking...
AI chose position 5 (Alpha-Beta nodes: 2338)


 X |   |
---+---+---
   | O |
---+---+---
   |   |


Enter your move (1-9): 3


 X |   | X
---+---+---
   | O |
---+---+---
   |   |


AI is thinking...
AI chose position 2 (Alpha-Beta nodes: 112)


 X | O | X
---+---+---
   | O |
---+---+---
   |   |
```



```
Enter your move (1-9): 8


 X | O | X
---+---+---
   | O |
---+---+---
   | X |


AI is thinking...
AI chose position 4 (Alpha-Beta nodes: 29)


 X | O | X
---+---+---
 O | O |
---+---+---
   | X |


Enter your move (1-9): 6


 X | O | X
---+---+---
 O | O | X
---+---+---
   | X |


AI is thinking...
AI chose position 9 (Alpha-Beta nodes: 5)


 X | O | X
---+---+---
 O | O | X
---+---+---
   | X | O


Enter your move (1-9): 7


 X | O | X
---+---+---
 O | O | X
---+---+---
 X | X | O


😳 It's a draw!
PS C:\Users\Admin\github-classroom\UPHSL-CCS-J3A\build-a-minimax-tic-tac-toe-ARNMA03>
```