Import streamlit as st

Import random

Import matplotlib.pyplot as plt

Import numpy as np

Def draw\_board(player\_pos):

Size = 10 # 10x10 board

Fig, ax = plt.subplots(figsize=(6,6))

Ax.set\_xlim(0, size)

Ax.set\_ylim(0, size)

# Draw grid

For i in range(size + 1):

Ax.plot([i, i], [0, size], color=’black’, linewidth=1)

Ax.plot([0, size], [i, i], color=’black’, linewidth=1)

# Number the squares

For row in range(size):

For col in range(size):

Num = row \* size + (col + 1)

If row % 2 == 1:

Num = (row + 1) \* size – col

Ax.text(col + 0.5, row + 0.5, str(num), ha=’center’, va=’center’, fontsize=12, color=’black’)

# Draw snakes

Snakes = {97: 78, 62: 19, 54: 34, 25: 5}

For start, end in snakes.items():

Start\_x, start\_y = (start – 1) % size, (start – 1) // size

End\_x, end\_y = (end – 1) % size, (end – 1) // size

Ax.arrow(start\_x + 0.5, start\_y + 0.5, (end\_x – start\_x) \* 0.8, (end\_y – start\_y) \* 0.8, head\_width=0.3, head\_length=0.3, fc=’red’, ec=’red’)

# Draw ladders

Ladders = {4: 56, 12: 50, 33: 74, 42: 85}

For start, end in ladders.items():

Start\_x, start\_y = (start – 1) % size, (start – 1) // size

End\_x, end\_y = (end – 1) % size, (end – 1) // size

Ax.arrow(start\_x + 0.5, start\_y + 0.5, (end\_x – start\_x) \* 0.8, (end\_y – start\_y) \* 0.8, head\_width=0.3, head\_length=0.3, fc=’green’, ec=’green’)

# Draw player positions

Colors = [‘blue’, ‘orange’]

For i, pos in enumerate(player\_pos):

X, y = (pos – 1) % size, (pos – 1) // size

Ax.scatter(x + 0.5, y + 0.5, color=colors[i], s=200, label=f’Player {i+1}’)

Ax.legend()

Ax.set\_xticks([])

Ax.set\_yticks([])

Ax.set\_frame\_on(False)

Return fig

# Streamlit UI

St.title(“Snakes & Ladders Duel”)

If ‘player\_pos’ not in st.session\_state:

St.session\_state[‘player\_pos’] = [1, 1]

St.session\_state[‘turn’] = 0

St.pyplot(draw\_board(st.session\_state[‘player\_pos’]))

If st.button(“Roll Dice!”):

Dice = random.randint(1, 6)

St.write(f”Player {st.session\_state[‘turn’] + 1} rolled a {dice}”)

New\_pos = st.session\_state[‘player\_pos’][st.session\_state[‘turn’]] + dice

Snakes = {97: 78, 62: 19, 54: 34, 25: 5}

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If new\_pos in snakes:

St.write(“Oops! Hit a snake!”)

New\_pos = snakes[new\_pos]

Elif new\_pos in ladders:

St.write(“Nice! Climbing a ladder!”)

New\_pos = ladders[new\_pos]

If new\_pos > 100:

New\_pos = 100

St.session\_state[‘player\_pos’][st.session\_state[‘turn’]] = new\_pos

If new\_pos == 100:

St.write(f”Player {st.session\_state[‘turn’] + 1} wins!”)

Else:

st.session\_state['turn'] = 1 - st.session\_state['turn']

st.experimental\_rerun()