Sprint 2 Backlog

1. **AI**
    a. Assess board state (assign board state heuristics)
        i. Maintain board state
            1. Determine formula to calculate heuristic
            2. Keep track of all piece coordinates (array of tuples)
            3. generatePawnMove() (piece-specific move functions)
            4. Only allowed to move own playing pieces
    b. Generate all possible valid moves
        i. Display error if not a valid move
        ii. Move restriction - rules pertaining to each piece
    c. Min-max tree structure
        i. Assign heuristic to each chess piece
        ii. *The computer looks ahead one move in the tree
            1. Three levels deep only
        iii. Min-max tree used for AI
        iv. Alpha-beta pruning (one-level)
        v. Alpha-beta pruning (utility-based successors sorting)
        vi. Iterative deepening implemented
    d. The function should generate moves in what piece to move and to where (E4 E5)
2. **Utility Functions**
    a. Ask person which color/player they want to be first
    b. Backend
        i. Call relevant AI functions
        ii. Maintain board state.
        iii. Verify validity of all user moves - use computer-generator AI!
        iv. Determine the winner.
    c. Frontend
        i. Call relevant GUI functions
        ii. Maintain (visible) timer for each move
        iii. Bridge between GUI and AI

Tasks:

Both work on utility and AI in parallel.

Daniel: more on the utility side

- Get stuff to work/play without AI

- Timer to be turn-based and count down

Srishti: more on the AI functions side

- Computer generated moves, keep track of pieces' coordinates after each move