Use Case Description: Take a Turn

Primary Actor: Player

Stakeholders and Interests:
- *Player:* wants to enjoy playing the game, for the game to play exactly as described by the rules, and to be able to play with other players.
- *Developer:* wants the game to run smoothly so it satisfies the interests of the players.

Preconditions:
- The user has initiated the game

Success Guarantee (Postcondition):
- One player has claimed three columns with a token of their color.

Main Success Scenario:
1. The system prompts the player to roll the four dice. *[Alt9: The player saves the game]*
2. Once the player rolls the dice, the player arranges the dice into any arrangement of pairs. *[Alt3: Player rolls 4 identical numbers, Alt6: Player busts, Alt7]*
3. The player then places a runner token on each of the two columns representing the summation of each individual pair. *[Alt2: Player has 1 runner token, Alt4, Alt5]*
4. The player chooses to end their turn. *[Alt1: Rolls again instead of ending their turn, Alt8]*
5. The system checks to make sure the player has placed the runner tokens correctly.
6. The system replaces the runner tokens with a token of that player's color.
7. The system now shifts the turn to the next player.

Alternative Flows:
Alt1: The player chooses to roll again instead of ending their turn.

Alt2: The player only has one runner token remaining to place. The player chooses one of the two new columns to place a runner token in.

Alt3: The player rolls all the same numbers such that they can only create one column from both pairs of dice. The player places one runner token in that column and moves it an additional space.

Alt4: The player forms pairs such that there is one new column and one column they are already in, but they have no more runner tokens to place. The player moves the runner token already in play by one space.

Alt5: The player already has a piece of their color in the column they are putting their runner token in. They place the runner token in spot ahead of their colored piece.

Alt6: The player rolls such that they can only add runner tokens to new columns (or already claimed columns) and they have no more runner tokens to place. That player busts. Remove all runner tokens without placing any colored pieces and immediately end their turn.

Alt7: The player cannot avoid making a pair that sums to a column with their runner token already at the end of the column. That player busts.

Alt8: The player ends their turn while they have a runner token at the end of a column. That column is now claimed by that player, and all player's pieces are removed from the claimed column. The claimed column is now inaccessible to all players.

Alt9: Player saves the game instead of taking their turn. The system closes the game, but saves the boardstate for future use.

Exceptions:

- An AI is taking a turn, so the system handles all decisions. There is no user input (regarding what moves to make) offered while the computer takes a turn.

Special Requirements:

- The colors used must be accessible to those with color blindness and also prevent stigmatization towards these players.

Open Issues:

- The selection method for sorting the dice
- Figuring out different algorithms by which a computer chooses whether to reroll or not based on the difficulty chosen by the user