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CS 172

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Requirements:

Problem Definition:

To create a functional replica of the Settlers of Catan board game, allowing for play of 2-4 people. Must have ability to save a session for later play.

* Board
  + Design Ascii board with \ / and \_
  + Implement variable within structure of Ascii Design to be manipulated according to player actions.
  + Configure a coordinate system to check nodes and sides of each tile within the Board
  + Create a function to check adjacency of sides, nodes, and tile values such that no two elements, if occupied, overwrite each other.
  + Implement a text file to save and load player data (Cards and Points) and board layout/data between sessions of play.
  + Robber will randomly be assigned to a new tile when a 7 is rolled
  + Create a constructor to indicate how many players will be playing in this game
  + Ability to reprint the board.
* Tiles
  + Methods to store and evaluate the nodes and sides of each created tile class.
  + Methods to check other tile classes for adjacency and overlapping resources
  + Methods to Identify which player is occupying which node / side of the specified tile
  + Check for Robber that prohibits resource gain of specified tile Robber occupies.
  + Method that uses Player method to give resources if that tile is rolled
* Player
  + Private attributes that store player resource cards and point value
  + Player function to buy houses, road, and town upgrades
  + Methods to both add and remove resources
  + Methods to exchange 4 of the same resources for a resource the player needs
  + Method to display players hand

Assumption

1. There will be more than one player but at max four players
2. Players will take turns without looking at other play’s resources in hand