1. The game
   1. The game is a 2D top-down style turn-based strategy game.
   2. The game is played by two players. Each player takes a turn.
   3. On a player’s turn, they move any number of units across the board from one tower to another tower.
      1. If the tower is empty, the player takes control of the tower, and the tower takes in all of the units sent to it.
      2. If the tower is owned by the enemy, a battle commences.
         1. The team that has more units is the winner.
            1. The winner loses units equal to the amount of enemy units in the battle (If Team A has 54 units attacking a tower owned by Team B with 33 units, Team A will take control of the tower with 21 units remaining).
            2. **In the event of a tie, both teams lose all units, and the tower becomes unowned.**
         2. The tower becomes owned by the winner
      3. The player’s turn ends.
   4. Each turn, a tower generates one unit of the team that controls the tower. The number of units a tower owns is printed on the tower, in the color of the team that owns it.
   5. The board is divided into four quadrants. Each quadrant contains four towers. The board is symmetrical.
   6. Each player begins with one tower under their control, at opposite corners of the board. All of the other towers are unowned at the start.
2. What needs to be done
   1. The game needs to be playable by one human against a simple AI.
      1. The AI will not use any advanced AI writing, and is simply hard-coded with a basic algorithm for decision making.
   2. The game must be able to write data to a database in the form of a .csv file based on the current game state.
      1. Each game state is described as the status of each team in each quadrant of the board.
         1. A team’s status is described as “weak”, “medium”, “strong”, or “very strong”depending on the amount of units present in that quadrant of that team.
            1. “Weak” = 0-50 units
            2. “Medium” = 51-100 units
            3. “Strong” = 101-150 units
            4. “Very Strong” = 151-200 units
      2. In addition to this, a game state also describes how many units are in each tower across the entire board.
   3. The game will create a diagram that will display the power dynamic of each team in each quadrant.
      1. An arrow will be drawn, which symbolizes the power dynamic of a particular team in a particular quadrant.
         1. The arrow is drawn based on the distribution of units that team controls. For example, if Team A has more units in the upper right-hand corner of a quadrant, yet still has a decent amount of units in the lower right-hand corner, the arrow will be displayed pointing mostly towards the upper center-right section of the board. A basic drawing in one quadrant is below.
3. Resources:
   1. Writing to a text file from Unity: <https://support.unity3d.com/hc/en-us/articles/115000341143-How-do-I-read-and-write-data-from-a-text-file->
4. Example Database entries:
   1. Game start info (printed once at the start of the game, not repeated each turn)
      1. Location of each owned tower, and the team that owns it
      2. Location of other towers
   2. Current game turn (increased by 1 each turn)
   3. Current player taking a turn (team A or B, Red or Blue, etc)
   4. Total units of each team
   5. Status of each starting tower
      1. Team that owns it (static)
      2. Number of units in it
   6. Status of each non-starting tower
      1. Tower location (ID, key attribute)
      2. Team that owns it (null if tower is unowned)
      3. Number of units in it (0 if unowned)
   7. Outcome of turn
      1. What the player did (battle, take unowned tower, wait)
      2. If there was a battle, the result of it
         1. Battle number
         2. Tower location
         3. Attacker
         4. Attacking units
         5. Defending units
         6. The winner
            1. This is needed, as someone may intentionally take a losing battle to decrease enemy units
         7. Units remaining of winner in the tower



*In this example, the red arrow is pointing towards the corner with the most units, and is leaning slight left due to the 20 units in the top-left corner, but not as much, due to the 12 units in the bottom-right corner. It completely ignores the 23 blue units in the bottom-left corner. The blue arrow only points in one direction, as there are no other blue-owned towers in the quadrant.*