Gonzaga Men’s Basketball Yahtzee

Functional Requirements

**Business Function Model**

Objective: Play a multiplayer game of Gonzaga Men’s Basketball Yahtzee in a Graphical User Interface (GUI).

* Start a new game
  + Display the leaderboard (top 3 highest scores)
  + Display instructions and rules
  + Determine number of players
  + Get the player’s name(s)
  + Set up empty scorecard(s)
  + Display dice before rolling
* Roll a hand
  + Roll all five dice
  + Determine if rerolls are available
  + Prompt the player to keep dice
  + Reroll dice not kept
  + Determine whether to proceed to scoring
    - Determine if all dice have been kept
    - Determine if all available rolls have been used
* Score a hand
  + Determine which scorelines are unused
  + Calculate the score for each unused line
  + Display the calculated scores to the user as possible scoring options
  + Prompt the player to select a scoring option
  + Record the score of selected option on the appropriate scorecard line
  + Display a scorecard
    - Display the score for each upper scorecard line
    - Calculate and display the total of upper scorecard lines
    - Determine if a bonus was achieve
    - Calculate and display the total of upper scorecard lines including bonus
    - Display the score for each lower scorecard line
    - Calculate and display the total of lower scorecard lines
    - Determine if a bonus was achieve
    - Calculate and display the total of lower scorecard lines including bonus
    - Calculate and display the grand total
* Finish a game
  + Determine whether any scorecard lines remain unused
  + Display final scorecard when all scorecard lines have been used (per parameters outlined above)
  + Determine whether the player’s score qualifies them for the leaderboard
  + Add the score to the leaderboard if applicable
  + Ask the player if they would like to play again
  + Start a new game if appropriate

**Functional Requirements**

Start here