Project: A Game of Games - Use Cases

- **The Game of Games Use Cases:**
  S01: Start Game of games
  S02: Prompt "Enter Player Names"
  S03: Display Scoreboard
  S04: Display the list of games to players
  S05: Display game list; Prompt "Choose a game: 'Enter a number between 1 to 5'
      A01: @S05: 1. Guess number game (jump to this user case)
      A01:1: @S05: 2. Find the Red Thread (jump to this user case)
      A01:2: @S05: 3. Coin Flip (jump to this user case)
      A01:3: @S05: 4. Odd and Even (jump to this user case)
      A01:4: @S05: 5. Find The Thimble (jump to this user case)
  S06: Update the scoreboard
  S07: Prompt "Enter "q" to Quit or "c" to continue playing Game of Games
      A02: @S07, Decided on continuing the game
      A2.1: resume @S03
  S08: Display final scoreboard
  S09: number of wins for Player 1 is grater than Player 2
      A03:number of wins for Player 2 is grater than Player 1
  S10: Player with greater number of wins, wins the Game of games

- **Guess The Number**
  S01: Prompt "Enter Range for 0 through: "
  S02: Prompt "Enter number of guesses"
  S03: num of guesses is odd
  S04: Prompt "Guess #(number):"
  S05: num guesses is less than half of range
  S06: Player guesses a number in the range
  S07: player's guess is incorrect
  S08: player has more guesses
  S09: return winner, @game of games use case @S06
  A01: @S03 num guesses is even, return @S02

  C01: @S05 num guesses is more than half of range, return @S04

  F01: @S07 player's guess is correct, return @S09
  F02: @S08 player doesn't have more guesses, other player wins return @S09

- **Find the Red Thread Use Cases:**
  S01: Players picked Find the Red Thread game from the menu
  S02: Prompt, "Pick the number of spools: 'Enter a number between 1 to 10'"
  S03: If the player entered a value less than 1 0r greater than 10, prompt the player again: "Please enter a value between 1 - 10"
  S04: Display list of both players (1 for player 1 and 2 for player 2)
  S05: Prompt the player: "Enter your choice: "
      A01: @S05:For player 1, Enter "1"
      A01.1: For player 2, Enter "2"
  S06: If the player entered a value other than 1 0r 2, prompt the player again: "Please enter 1 for player 1 or 2 for player 2"
  S07: Prompt the player to pull: "Please enter number of threads to pull from the box (array with random values(19 blue threads and 1 Red))
  S08: Check if player 1 spools contains the red thread
          A02: @S08: Player 1 spools contain red, Display "Red thread found. You won!" go to @S06
          A02.2: Red missing for player 1, player 2 pull from the box
  S09: Check if player 2 spools contains the red thread
          A03: @S09: Player 2 spools contain red, Display "Red thread found. You won!", go to @S06
          A03:1: Red thread missing for player 2, go to @S08
  S10: End the Game, go to Game of Games @S06

- **Coin flip Use Cases:**
  S01:Player picked Coin Flip game
  S02: Display Coin Flip Description: "Coin flip is the practice of throwing a coin in the air and checking which side is showing when it lands, in order to choose between two alternatives, heads or tails. It is a form of sortition which inherently has two possible outcomes. The guesser calls the side that is facing up when the coin lands and the flipper flips the coin, if the coin lands on the guesser's guess, then the guesser gets the point. If the guesser is incorrect, then the flipper gets the point. They play until one of their scores reaches the best out of the number divided by 2 plus 1. "
  S03:Prompt, "Enter a positive odd number to pick the best out of the number of games"
  S04: Display: "The game is going to play best out of "best out of number" rounds."
  S05: Display: "You are the guesser, the computer is the flipper."
  S06: Update the round number: round number +=1, and Display: " Round "x", out of "best out of number" rounds."
  S07: Prompt, "Enter 'H' for picking heads or 'T' for picking tails"
  S08: Computer flips the coin

S09: Display: "You have guessed "Guesser's guess", and the coin landed on "computer flip".
S10: Guesser guesses the result of Computer's flip: Display "Guesser won the round.", Add 1 to Guesser's score
S11: Display the scoreboard for the coin flip
S12: Guesser's score is greater than (best out of number)/2, Display: "Guesser won the coin flip game"
S13: add one point to coin flip winner's overall scorego back to Game of Games use case @S06

A01: @S03 player decided on an even # or an invalid input
A1.1: Display: "Wrong input please pick a positive odd number"
A1.2: resume @S03

A02: @S07 Player enters something other than "H" or "T"
A2.1: Display: "Invalid input, please only enter 'H' or 'T'."
A2.2: resume @S07

A03: @S10 Guesser does NOT guess the result of Computer's flip
A3.1: Display "Computer won the round.", Add 1 to computer's score
A3.2: resume @S11

A03: @S12 Computer's score is greater than (best out of number)/2, Display: "Computer won the coin flip game"
A3.1: resume @S13

- **Find the Thimble**
  S01: Prompt "Enter number of rounds:"
  S02: Print "Enter 'l' for left or 'r' for right:"
  S03: Check for round winner
  S04: Check for game winner
  S05: Print "Winner is *winner*"
  S06: Return winner @general case use @S06

  A01: @S01 num rounds is even, return @S01

  B01: @S03 user picks hand thimble is in, user wins round, return @S04

  C01: @S03 user picks hand thimble is not in, computer wins round, return @S04

  D01: @S04 winning player has won more than half of total rounds set to play until, winning player is game winner, return @S05

- **Even and Odd**

  S01: Prompt "Enter a positive number who reach this score first will win: " as x
  S02: Player choose "Odd number"
       (then computer will pick the left one, "Even number")
  S03: Prompt "Enter a number from 1 to 5: " as n1 (compter will pick a number n2)
  S04: Add two numbers together s = n1 + n2
  S05: Sum s is an odd number
  S06: Player gain score
  S07: Player reach x score first
  S08: Player wins, return winner @game of games use case @S06

  A01: @S02 player can choose "Even number"
              then "Odd number" left for computer
  A01.1: return @S03

  A02: @05 the sum s is an even number
  A02.1: then @06 the computer will gain score
  A02.2: if no one's score reach x, return @S03
  A02.3: if one side reach x, return @S07

  A03: @S07 no one reach x score
  A03.1: return @S03

  A04: @S07 computer reach x score first
  A04.1: return @S08