

Top Level Plan

- 1. Read project Question (story) and identify what the project is about and what needs to be done. 30 mins
- 2. Discuss the project and clarify project goals in term of features, functionalities and entities. 1 hour
- 3. Implementation procedure/schedule
 - a. Set up version control system and confirm okay
 - b. State all entities and their functionalities.
 - c. Carry out Modelling of (a) in UML (use draw.io).
 - d. Split implementation of the design
 - e. Commence project implementation in IntelliJ IDE as per UML design.
 - f. Use TDD - implement Test classes before method implementation.
 - g. Review the implementation afterwards.

Reminders

- 1. Commit codes to gitlab for every function(method) implemented after testing and confirmed okay.
- 1. 2. Use pull request to ensure pair verify codes before merging with the main branch.
- 2.
- 3. Review should hold after every class is implemented.

Black Jack

There are 52 cards.
There are 4 suits.
There are 13 values.
Each card belongs to 1 suit and has 1 value.

Card

- 1. A card has a suit attribute
- 2. A card has a value attribute

Conditions for our program

- A.
 - 1. # of players must be > 1 and <= 6
 - 2. Default # of players is 3 (if not set in the program)
- B.
 - 1. Every player's step should be log (by displaying on the screen)
 - 2. Winning player should be displayed on the console.
- C. Possible game strategies
 - 1. Default
 - 2. Always hit
 - 3. Always stick
 - 4. Risk-based strategy
- D. Game shuffling
 - 1. State shuffling mechanisms (algorithm)
 - 2. Implement (1)
 - 3. Program to select any card shuffling algorithm @ runtime.

Rules of the Game

- 1. Shuffle the cards (52 in number)
- 2. Player picks 2 cards from the deck.
- 3. Every player calculates the total value of the cards in hand.
- 4. The Game Decision system (GDS) decides who wins or lose based on the total of the player. (GDS check whose total is close to 21)
 - a. If player's total < 17: player's hit (pick a new card)
 - b. if player's total > 21: player's bust (they are out of the game)
 - c. if player's total > 17 and total < 21: player's stick
- 5. GDS says game is over if
 - a. every player sticks
 - b. all players hit exactly 21
 - c. Only 1 player is left in the game and others have gone bust.
- 6. A winner emerges if everybody has gone bust or hit 21, except one person's total is close to 21.