GitHub Link : https://github.com/rishabh191292/Big-Data-Programming

Big Data Programming Assignment 2

The said problem is solved using the concept of classes and functions. Three different types of classes namely Card, Deck and players are defined. The Card class contains the details of the card, the deck class is the cards each player and the player class which contains the details of the player. Only One characteristic is considered called as strength which are being compared between two players. Correspondingly the scores are updated and the subsequent player with the highest score wins the game.

Algorithm/Pseudo Code

1. Cards are hard coded with a single characteristic as strength. The strength is a numerical value given to each card. Each card represents an object of the class Card. The card name and strength are provided as a part of card initialization function.
2. The Cards are then group in a list which is then shuffled using random function. The random package is imported into the program.
3. This list is then divided into two parts and then each individual part becomes the deck for each player. This deck is initialized in a separate class called as deck.
4. After each individual player's deck have been formed and assigned. The game is begins.
5. In the start a dice rolling function is called to decide upon the starting player for the first round of the game. The rolling dice function is a class player function and is called. Two random numbers are generated for both player one and player two between 1&6. The player with the highest number wins the round and is made as the round starting player
6. Two Flags for both player one and player two are being maintained through-out the game and is updated as True if the round is won by any of the player. By default, it remains False both the players.
7. After the rolling dice is done the first round is being played. The Round starting player is given two options either play God Spell or play the Regular mode.
8. If the round starting player invokes God Spell then the counter for god spell as defined in the player class for that particular player is then initialized to zero. The Program execution is then jumped to a new function defined as GodSpellMode() which returns a card number as specified by the player who invoked the godspell. This new card will now become the top of the deck of the round second player. The strengths of the cards of both the players are compared and accordingly the one with the higher strength become the winner and the scores are updated. The top of the cards are then popped from both the players and pushed into the outdated deck in a random fashion.
9. The player who wins the round becomes the round starting player for the new round and the other round second player. The flag is correspondingly updated to being true for the winner of the round and vice versa.

10. If the round starting player opts to play the regular mode then simply the strengths of both the players are compared and correspondingly the results are updated.
11. After the first round and until the decks of either of the players are over, the round starting player is given three options either to play godspell, resurrect mode or regular mode.
12. The round starting player can opt for either of the option. For either of the option the round second player is given an option of playing resurrect mode if the player hasn't played it.
13. In the resurrect mode from the outdated deck, one card is picked at random which is then added on top of the deck of the player who invoked it.
14. The steps 11, 12 & 13 are repeated until the cards in the deck are not over.