Object Oriented Programs

1. **Stock Account Management**
   a. Desc -> Write a program to read in Stock Names, Number of Share, Share Price. Print a Stock Report with the total value of each Stock and the total value of Stock.
   b. I/P -> N number of Stocks, for Each Stock Read in the Share Name, Number of Share, and Share Price.
   c. Logic -> Calculate the value of each stock and the total value.
   d. O/P -> Print the Stock Report.
   e. Hint -> Create Stock and Stock Portfolio Class holding the list of Stocks read from the input file. Have functions in the Class to calculate the value of each stock and the value of total stocks.

2. **Stock Account**
   a. Create class Account for user details.
   b. Account Management & provide a method called debit which withdraws money from an Account. Ensure that the debit amount does not exceed the Account's balance. If it does, the balance should be left unchanged and the method should print a message indicating - Debit amount exceeded account balance.
   c. Add money into the account.
   d. Note: Save the Account details into a text file.

3. **Commercial Data Processing**
   a. StockAccount implements a data type that might be used by a financial institution to keep track of customer information. The StockAccount class implements following methods.
      - Buy - Take amount & share name from user.
      - Sell - Take amount & share name from user.
      - Save - Store user account details into a text file.
      - PrintReport – Print detailed report of stocks.
   b. The StockAccount class also maintains a list of Company shares objects which have Stock Symbol and Number of Shares as well as Date & Time of the transaction. When buy or sell is initiated StockAccount checks if Company shares are available and accordingly update or create an Object.

4. **Deck of Cards**
   a. Write a Program DeckOfCards, to initialize deck of cards having suit ("Clubs", "Diamonds", "Hearts", "Spades") & Rank ("2", "3", "4", "5", "6", "7", "8", "9", "10", "Jack", "Queen", "King", "Ace"). Shuffle the cards using Random method and then distribute 9 Cards to 4 Players and Print the Cards received by the 4 Players using 2D Array.

5. **Extend - Deck of Cards**
   a. Extend the above program to create a Player Object having Deck of Cards, and having ability to Sort by Rank and maintain the cards in a Queue implemented using Linked List. Do not use any Collection Library. Further the Players are also arranged in Queue. Finally Print the Player and the Cards received by each Player.