Laboratory and spot exercises

Classes and static methods

Lab no:4 **Date :25.8.23**

1. Develop a class called Book with members: name(String), price(double), ISBN(int), author(String), static variable discountRate(float) initialized to 0.10 . The methods are: default constructor, constructor(String,double,int) which initializes the name, price and ISBN using the arguments. Define get and set methods for all the data fields, toString(), static method:
   modifyDiscountRate(double) – to modify the discountRate (4)

2. Define a class called Customer with data members: firstName(String), lastName(String),custID(int),quantity(int),Books- arraylist<Book>, amount(double). The methods are: set and get methods, constructor with three arguments, quantity and amount is intialised to zero, toString() (3)
   void incr() – increments the quantity by one (1)
   Purchase(Book) – which adds Book to the arraylist and calls the incr() (1)
   calculateAmount – which sums up the price of each Book purchased and is called by the setAmount() (1)
   double calculateDiscount(Book) – returns the price of the book after discount and is called by the getAmountAfterDiscount (1)
   double getAmountAfterDiscount() – which returns the amount after discount only if the amount exceeds Rs.1000 (1)

3. Define CustomerDriver class and create objects of Customer and Book and test the methods by invoking it. (3)