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//Deethya Makonahalli's class for a library account that uses methods from
"Account" and stores new variables for the function of calculating money owed after
renting books or reserves

   public class LibraryAccount extends Account{;

  //initialising the field accountNumber
   private String accountNumber;

   //initialising the field overdueReserve
   private int overdueReserve;

   //initialising the field overdueBooks
   private int overdueBooks;

   //initialising the field bookFine
   private double bookFine;

   //initialising the field reserveFine
   private double reserveFine;

  // 1st Constructor for Library account which take the input accountNumber

   public LibraryAccount(String accountNumber){
     super(accountNumber);
     accountNumber = accountNumber;
}

  // 2nd Constructor for Library account which calls to accountNumber and
balanceLimit and inputs bookFine and reserveFine


   public LibraryAccount(String accountNumber, int balanceLimit, double bookFine,
double reserveFine){
     super(accountNumber, balanceLimit);
     this.bookFine = bookFine;
     this.reserveFine = reserveFine;
}

  //Method to set a Book Fine

   public void setBookFine(double bookFine) {
     this.bookFine = bookFine;
}

  //Method to access the Book Fine

   public double getBookFine() {
     return this.bookFine;
}

  //Method to set the Reserve Fine

   public void setReserveFine(double reserveFine) {
     this.reserveFine = reserveFine;
}

  //Method to access the Reserve Fine
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   public double getReserveFine() {
     return reserveFine;
}

  //Method to increase the recorded value of Overdue Books

   public void incrementOverdueBooks() {
    overdueBooks = 0;
    overdueBooks++;
}

  //Method to decrease the recorded value of Overdue Books

   public void decrementOverdueBooks() {
     overdueBooks = 0;
     if (overdueBooks<0){
      System.out.println("N/A");
    }else {
     overdueBooks--;
}
 }

  //Method to access the number of Overdue Books

   public int getNumberOverdueBooks() {
     return overdueBooks;
}

  //Method to increase the recorded value of the Overdue Reserve

   public void incrementOverdueReserve() {
     overdueReserve++;
}

  //Method to decrease the recorded value of the Overdue Reserve

   public void decrementOverdueReserve() {
     overdueReserve--;
}

  //Method to access value of the Overdue Reserve

   public int getNumberOverdueReserve() {
     return overdueReserve;
}

  // Method to check if the balance is less than or equal to the balance limit

   public boolean canBorrow() {
     return this.getBalance() <= this.getBalanceLimit();
}

  // Method to calculate the Account Balance after finding the total fine for the
books and the reserve

   public void endOfDay(){
     this.setBalance(this.getBalance() + (this.getNumberOverdueBooks()*bookFine) +
(this.getNumberOverdueReserve()*getReserveFine()));
 }
```

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}
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