CMPE - 202 Code Refactoring

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A. In the provided code BookRental and MovieRental classes both have the same attributes such as rentDate, dueDate, rentalFee and method isOverdue is also repeated with the same structure. We can also create a variable called title to replace bookTitle and movieTitle.
B. We will do the following to get rid of the code smell :-
   a. By creating an Abstract class with information of repeated code from both the classes and then these classes will extend this abstract class.
   b. We need to change the access modifiers from private to protected so that these classes can use those attributes.
   c. Apply null check for dueDate to check whether it is a null pointer exception as it returns a boolean value.
   d. Import the package java.util.Date as it is required.
C. Refactored Code-

```java
import Java.util.date;

public abstract class Rental {
    protected Date rentDate;
    protected Date dueDate;
    protected Double rentalFee;
    protected String title;

    public boolean isOverdue(){
        if (dueDate != null) {
            Date now = new Date();
            return dueDate.before(now);
        } else {
            return false;
        }
    }
}

public class BookRental extends Rental{
    private String author;
}

public class MovieRental extends Rental{
    private int classification;
}

public class main (){
    Run | Debug
    public static void main (String [] args) {
        BookRental book_obj = new Bookrental()
        book_obj.isOverdue();
        MovieRental movie_obj = new Movierental()
        movie_obj.isOverdue();
    }
}
```