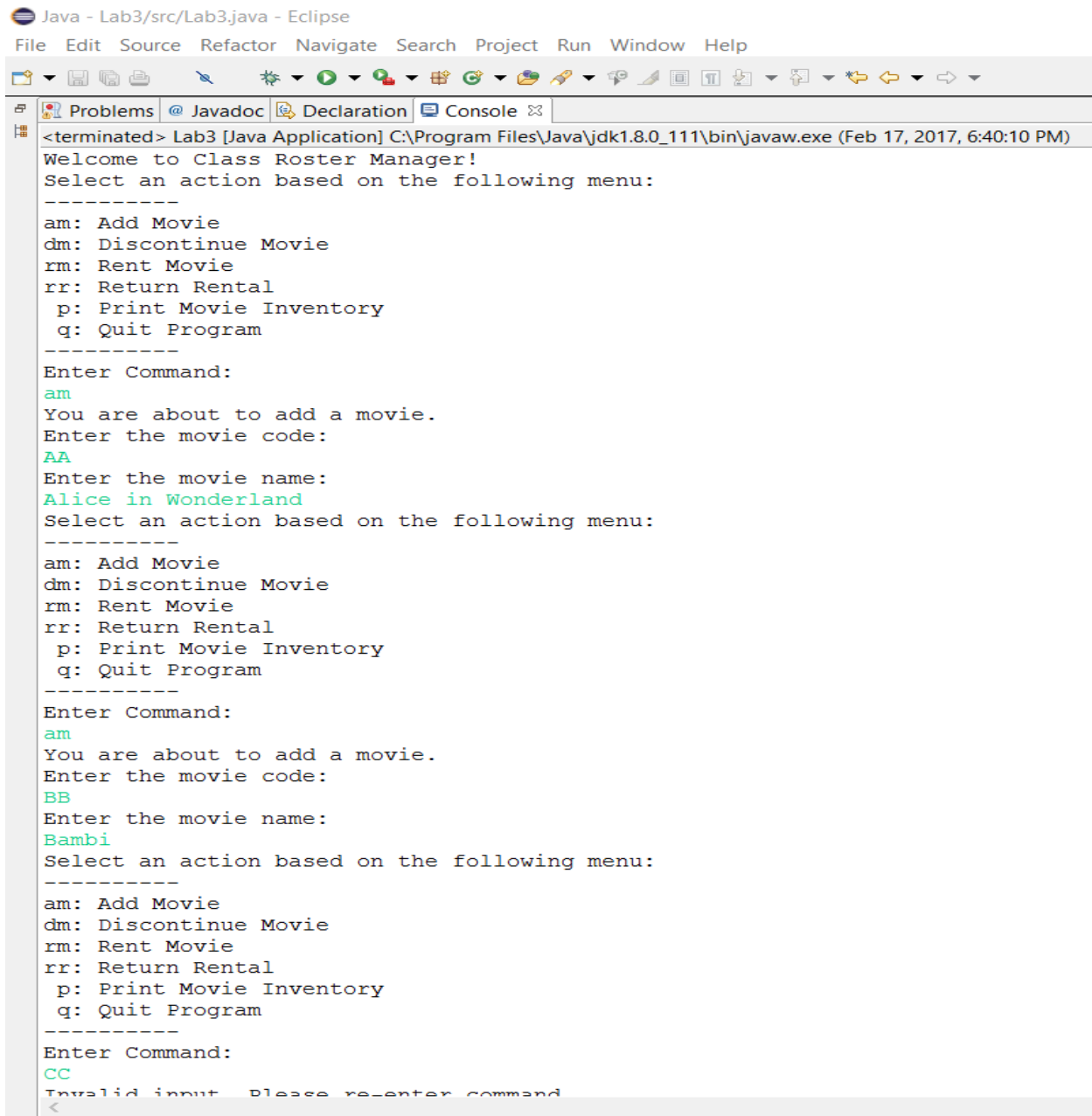


Submitted by: Vivian Thach(33939402) and Diana Sandil(10443456)



```
Java - Lab3/src/Lab3.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Welcome to Class Roster Manager!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:
AA
Enter the movie name:
Alice in Wonderland
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:
BB
Enter the movie name:
Bambi
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
CC
Invalid input. Please re-enter command.
```

When you first start the program and you're trying to add a movie.

```
Java - Lab3/src/Lab3.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:
TT
Enter the movie name:
Tarzan
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:
p
Enter the movie name:
Winnie the Pooh
MovieLimitException: Reached max limit of movies.
Welcome to Class Roster Manager!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
r
<
```

When you reach the max amount of movies you can add, the MovieLimitException will be raised.

```

<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 0
Movie code: BB
Movie name: Bambi
Number of copies rented: 0
Movie code: CC
Movie name: Cinderella
Number of copies rented: 0
Movie code: DD
Movie name: Dumbo
Number of copies rented: 0
Movie code: EE
Movie name: Enchanted
Number of copies rented: 0
Movie code: FF
Movie name: Finding Nemo
Number of copies rented: 0
Movie code: GG
Movie name: George of the Jungle
Number of copies rented: 0
Movie code: HH
Movie name: Hercules
Number of copies rented: 0
Movie code: II
Movie name: Ice Princess
Number of copies rented: 0
Movie code: JJ
Movie name: James and the Giant Peach
Number of copies rented: 0
Movie code: KK
Movie name: Kimi No Na Wa
Number of copies rented: 0
Movie code: LL
Movie name: Lady and the Tramp
Number of copies rented: 0
Movie code: MM
Movie name: Monsters, Inc.
Number of copies rented: 0
Movie code: NN
Movie name: National Treasure
Number of copies rented: 0
Movie code: OO
Movie name: Old Dogs
Number of copies rented: 0
Movie code: PP
Movie name: Peter Pan
Number of copies rented: 0
Movie code: QQ
Movie name: Quantum of Solace
Number of copies rented: 0
Movie code: RR
Movie name: Ratatouille
Number of copies rented: 0
Movie code: SS
Movie name: Sleeping Beauty
Number of copies rented: 0
Movie code: TT
Movie name: Tarzan
Number of copies rented: 0

```

Entire movie list.

```
Java - Lab3/src/Lab3.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
  p: Print Movie Inventory
  q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
AA
Enter the Renter ID:
123
Enter your last name:
Smith
Enter your first name:
John
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
  p: Print Movie Inventory
  q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 1
Renter ID: 123
Name: Smith, John
Movie code: BB
Movie name: Bambi
Number of copies rented: 0
Movie code: CC
Movie name: Cinderella
Number of copies rented: 0
Movie code: DD
Movie name: Dumbo
<
```

This is what happens when you input the command to rent a movie. I added a red-arrow because the following screenshot will show the DuplicateRenterException.

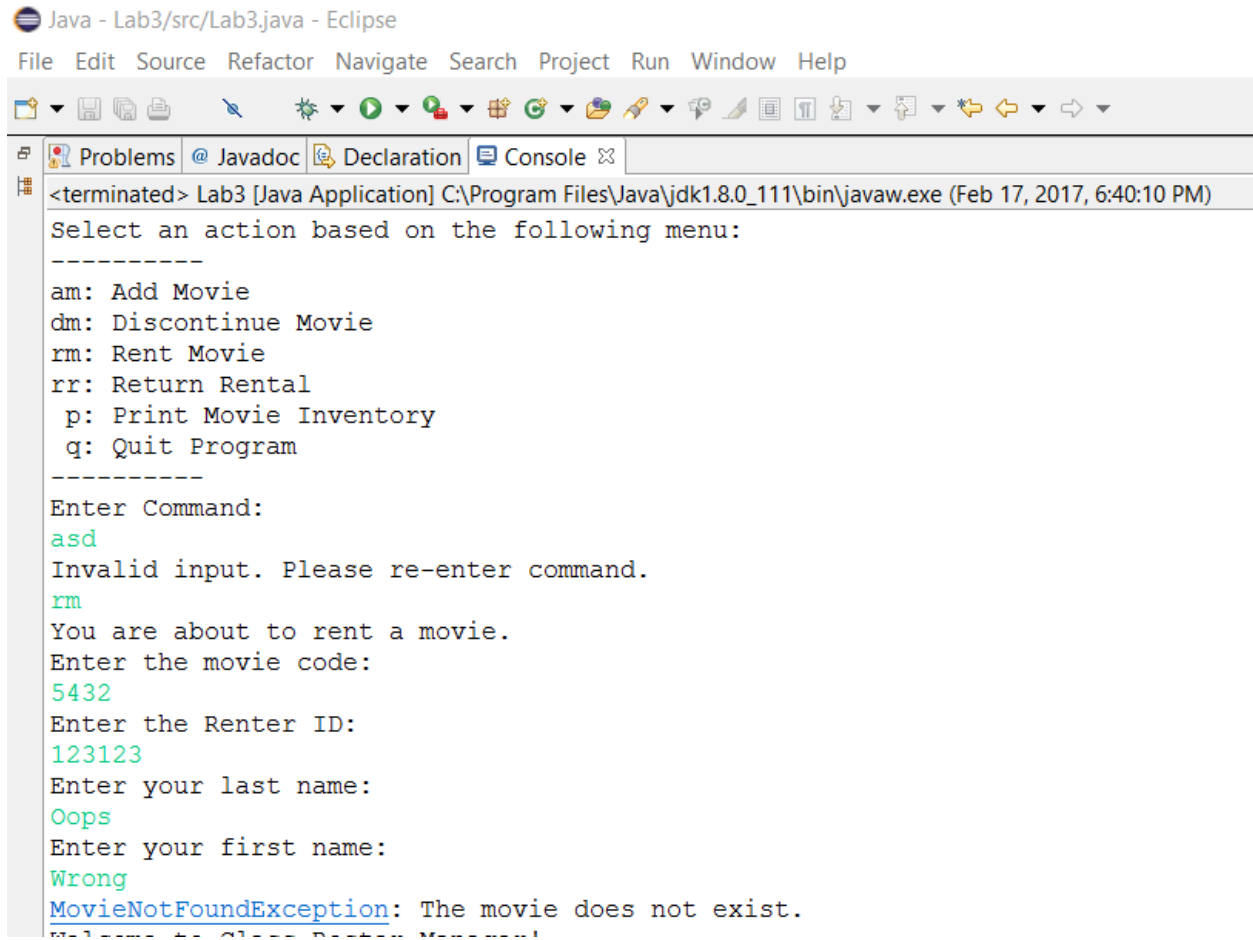
Java - Lab3/src/Lab3.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Problems @ Javadoc Declaration Console

```
<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
aa
Enter the Renter ID:
123
Enter your last name:
Smith
Enter your first name:
Jane
DuplicateRenterException: A renter of this ID already exists.
```

This shows the DuplicateRenterException where the user has the same ID.



```
<terminated> Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 6:40:10 PM)
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
asd
Invalid input. Please re-enter command.
rm
You are about to rent a movie.
Enter the movie code:
5432
Enter the Renter ID:
123123
Enter your last name:
Oops
Enter your first name:
Wrong
MovieNotFoundException: The movie does not exist.
Welcome to Glass Boxer Management
```

This screenshot shows what happens if you input an invalid command. This also shows that if you are trying to rent a movie that doesn't exist, the `MovieNotFoundException` will be raised.

Java - Lab3/src/MovieManager.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help



Problems Javadoc Declaration Console

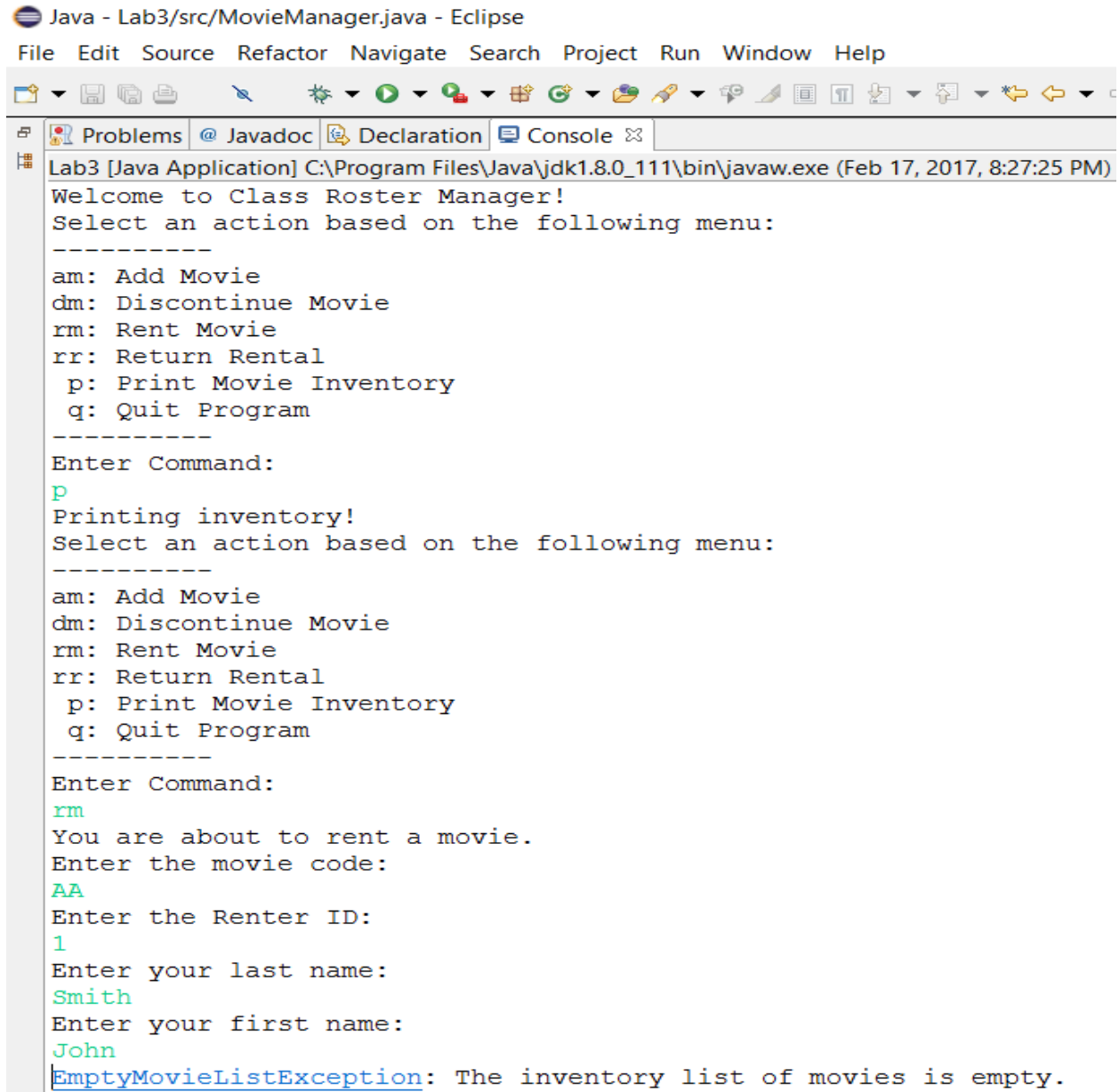
Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Fet

```
Printing inventory!
Movie code: a
Movie name: Alice in Wonderland
Number of copies rented: 10
Renter ID: 902
Name: Crush, Candy
Renter ID: 5
Name: Legends, League
Renter ID: 8234
Name: Nhi, Tri
Renter ID: 1
Name: Scape, Rune
Renter ID: 2
Name: Scape, New
Renter ID: 60
Name: Smith, John
Renter ID: 701
Name: Smith, Jane
Renter ID: 6923487
Name: Stone, Heart
Renter ID: 4
Name: Story, Maple
Renter ID: 3
Name: Watch, Over
Movie code: BLEH
Movie name: BLEH
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
  p: Print Movie Inventory
  q: Quit Program
-----
Enter Command:
rr
You are about to return a rented movie.
Enter the movie code:
a
Enter the Renter ID:
60
```

```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:37:41 PM)
Enter the movie code.
a
Enter the Renter ID:
60
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: a
Movie name: Alice in Wonderland
Number of copies rented: 9
Renter ID: 902
Name: Crush, Candy
Renter ID: 5
Name: Legends, League
Renter ID: 8234
Name: Nhi, Tri
Renter ID: 1
Name: Scape, Rune
Renter ID: 2
Name: Scape, New
Renter ID: 701
Name: Smith, Jane
Renter ID: 6923487
Name: Stone, Heart
Renter ID: 4
Name: Story, Maple
Renter ID: 3
Name: Watch, Over
Movie code: BLEH
Movie name: BLEH
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
<
```

This is when you return a rental; the number of copies decrease and the renter's ID that you have removed is no longer there.



```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 8:27:25 PM)
Welcome to Class Roster Manager!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
p
Printing inventory!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
AA
Enter the Renter ID:
1
Enter your last name:
Smith
Enter your first name:
John
EmptyMovieListException: The inventory list of movies is empty.
```

This screenshot shows that if you are trying to rent a movie, but there is no movie in the inventory list to be rented, it raises the EmptyMovieListException.

```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 8:27:25 PM)
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
asd
Invalid input. Please re-enter command.
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
AA
Enter the Renter ID:
1
Enter your last name:
L
Enter your first name:
EmptyRenterNameException: Renter name is empty.

Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
AA
Enter the Renter ID:
7
Enter your last name:
EmptyRenterNameException: Renter name is empty.
```

If you do not enter a character for first or last name, the EmptyRenterNameException is raised.

Java - Lab3/src/MovieManagerUI.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Problems Javadoc Declaration Console

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 8:27:25 PM)

```
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
AA
Enter the Renter ID:
-1
InvalidRenterIDException: Invalid renter ID.
```

This is what happens when you input a number that's not positive, it will raise the `InvalidRenterIDException`.

Java - Lab3/src/MovieManager.java - Eclipse

File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:09:02 PM)

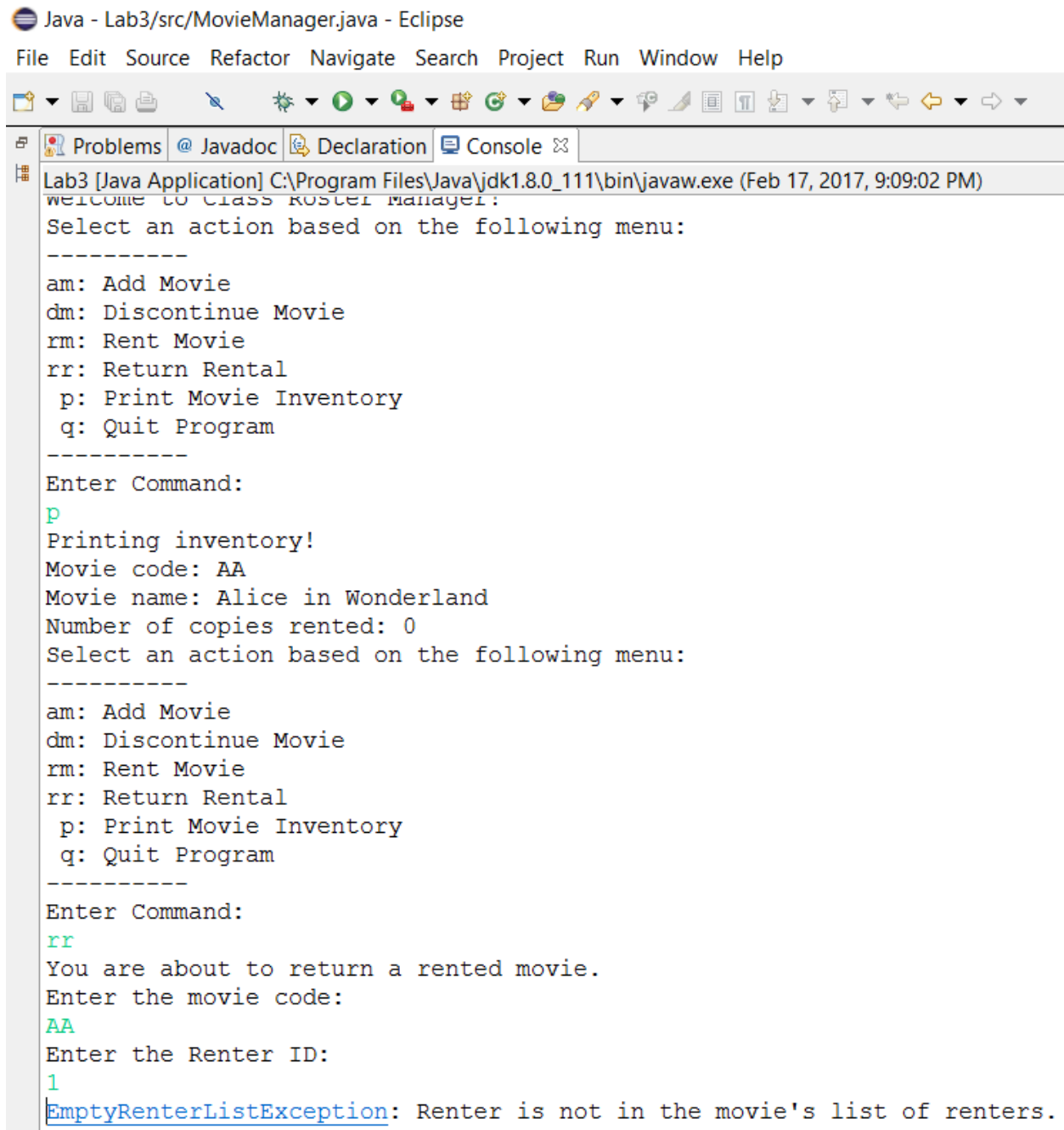
```
Welcome to Class Roster Manager!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:

EmptyMovieInfoException: Movie code and/or Movie name is empty.

Welcome to Class Roster Manager!
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You are about to add a movie.
Enter the movie code:
A
Enter the movie name:

EmptyMovieInfoException: Movie code and/or Movie name is empty.
```

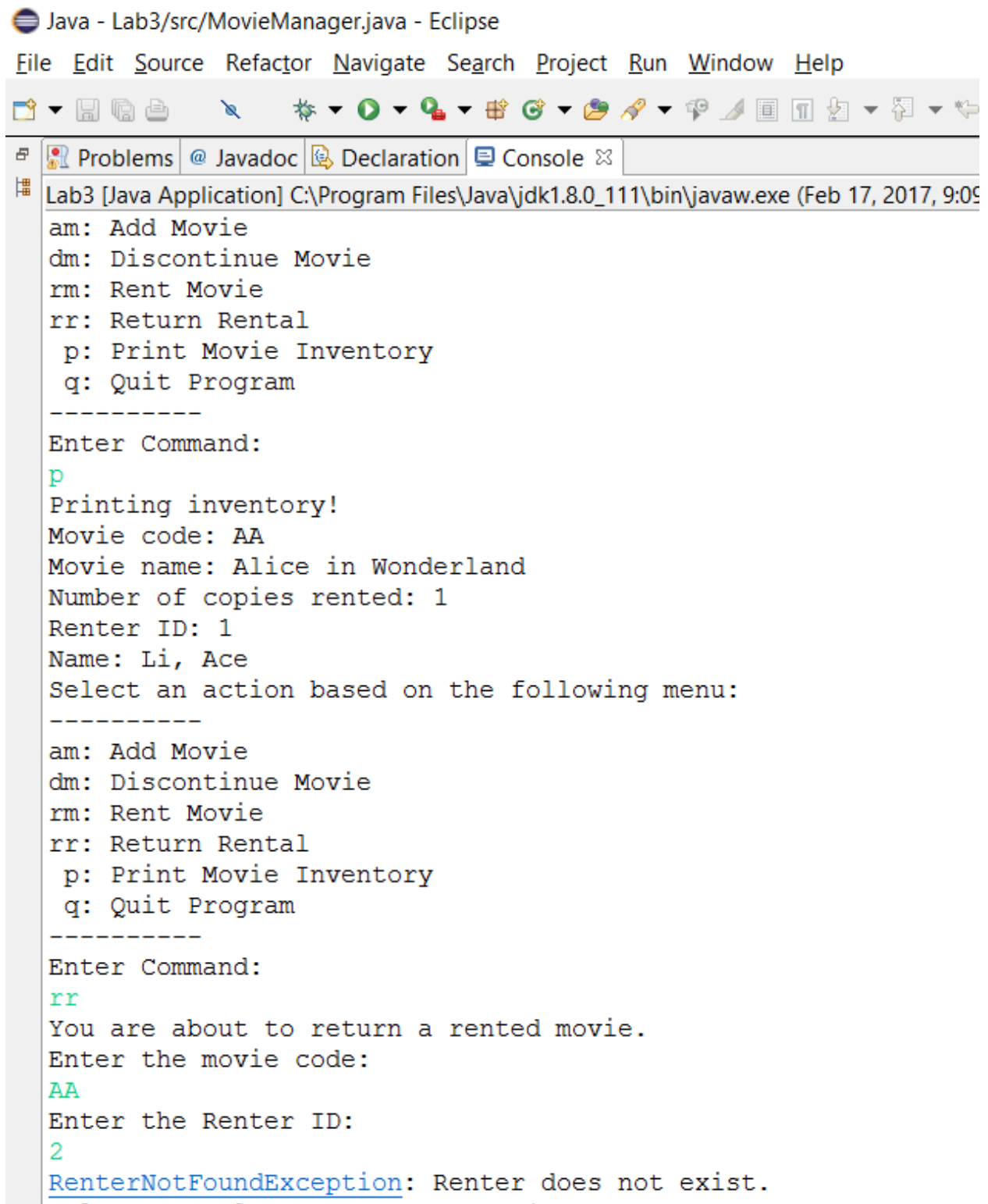
When you do not input the movie code/name the EmptyMovieInfoException will be raised.



```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:09:02 PM)
Welcome to Class Roster Manager:
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rr
You are about to return a rented movie.
Enter the movie code:
AA
Enter the Renter ID:
1
EmptyRenterListException: Renter is not in the movie's list of renters.
```

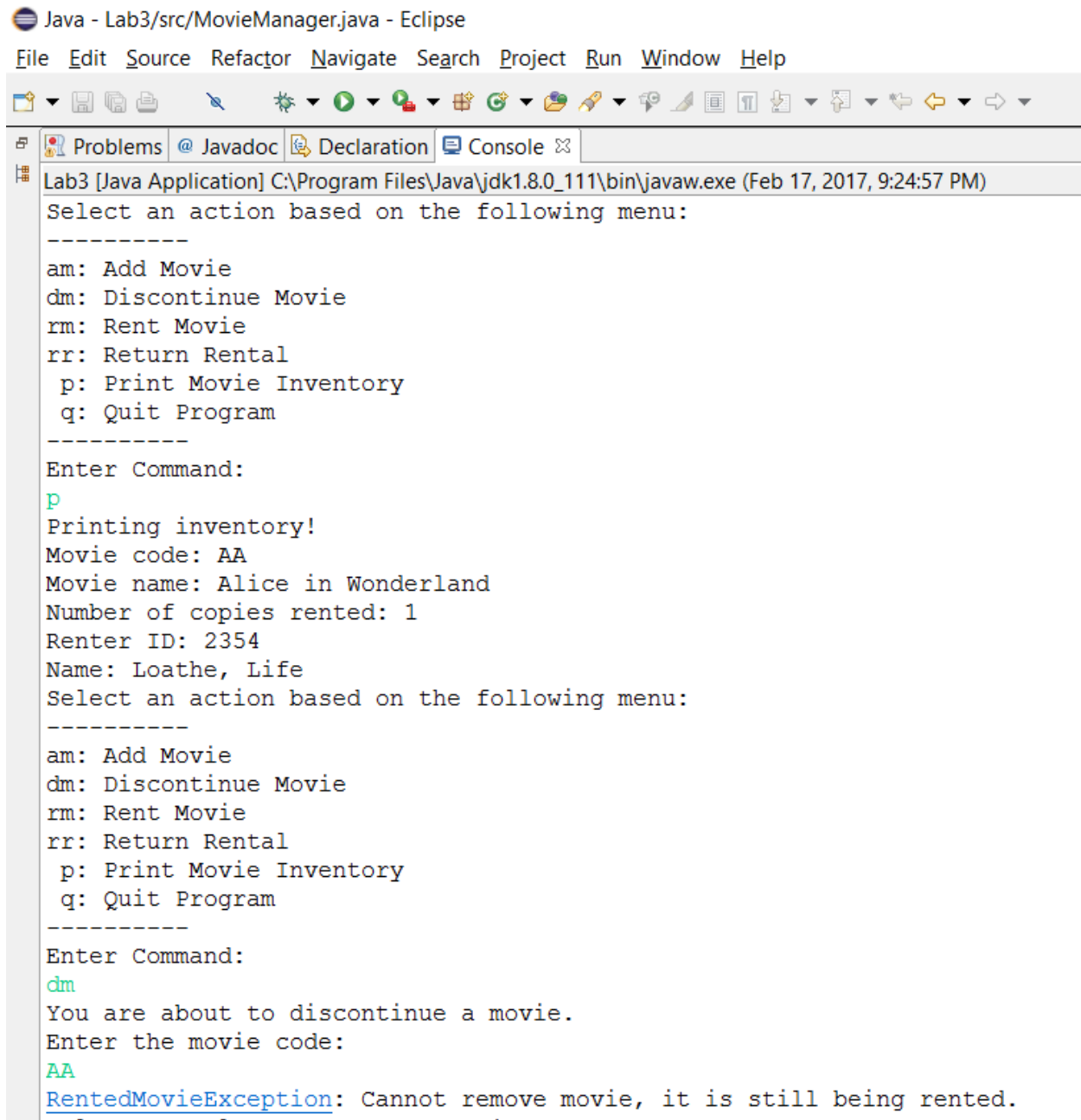
When you are trying to return a rental but the Renter is not in the movie list of renters the EmptyRenterListException will be raised.



```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:09)
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
  p: Print Movie Inventory
  q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 1
Renter ID: 1
Name: Li, Ace
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
  p: Print Movie Inventory
  q: Quit Program
-----
Enter Command:
rr
You are about to return a rented movie.
Enter the movie code:
AA
Enter the Renter ID:
2
RenterNotFoundException: Renter does not exist.
```

When you are trying to return a movie but the renter does not exist for the movie being returned, the `RenterNotFoundException` is raised.



```
Java - Lab3/src/MovieManager.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:24:57 PM)
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
p
Printing inventory!
Movie code: AA
Movie name: Alice in Wonderland
Number of copies rented: 1
Renter ID: 2354
Name: Loathe, Life
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
dm
You are about to discontinue a movie.
Enter the movie code:
AA
RentedMovieException: Cannot remove movie, it is still being rented.
```

When you try removing a movie but someone is currently still renting the movie, this will raise the `RentedMovieException`.

```

Lab3 [Java Application] C:\Program Files\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:37:4
Enter Command:
p
Printing inventory!
Movie code: a
Movie name: Alice in Wonderland
Number of copies rented: 10
Renter ID: 902
Name: Crush, Candy
Renter ID: 5
Name: Legends, League
Renter ID: 8234
Name: Nhi, Tri
Renter ID: 1
Name: Scape, Rune
Renter ID: 2
Name: Scape, New
Renter ID: 60
Name: Smith, John
Renter ID: 701
Name: Smith, Jane
Renter ID: 6923487
Name: Stone, Heart
Renter ID: 4
Name: Story, Maple
Renter ID: 3
Name: Watch, Over
Movie code: BLEH
Movie name: BLEH
Number of copies rented: 0
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
rm
You are about to rent a movie.
Enter the movie code:
a
Enter the Renter ID:
9876502
Enter your last name:
Finale
Enter your first name:
Trinity
RenterLimitException: No available copies for that movie.

```

When you're trying to rent a movie but there are no more available copies for that movie, the `RenterLimitException` will be raised. Also, the names are sorted by last name first, and if that's the same then by the renter's ID.

Lab3 [Java Application] C:\Program Files (x86)\Java\jdk1.8.0_111\bin\javaw.exe (Feb 17, 2017, 9:38:1

```
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You want to add a movie
Enter the movie code:
OPFZ
Enter the movie name:
One Piece: Film Z
Select an action based on the following menu:
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
am
You want to add a movie
Enter the movie code:
OPFZ
Enter the movie name:
One Punch For Zen
DuplicateMovieException: Movie already exists.
Welcome to Class Roster Manager!
Select an action based on the following menu:|
-----
am: Add Movie
dm: Discontinue Movie
rm: Rent Movie
rr: Return Rental
p: Print Movie Inventory
q: Quit Program
-----
Enter Command:
```

When you're trying to add another movie and using the same movie code, this will raise the DuplicateMovieException.

Package Explorer JUnit finished after 0.079 seconds

Runs: 18/18 Errors: 0 Failures: 0

MovieManagerTest [Runner: JUnit 4] (0.022 s)

- emptyMovieListExceptionReturnRentalTest (0.004 s)
- returnRentalCheckRentalArrayOrderTest (0.001 s)
- movieNotFoundExceptionRentMovieTest (0.002 s)
- rentMovieTest (0.000 s)
- returnRentalTest (0.001 s)
- emptyMovieListExceptionDiscontinueMovieTest (0.001 s)
- renterNotFoundExceptionTest (0.001 s)
- movieLimitExceptionTest (0.001 s)
- renterLimitExceptionTest (0.001 s)
- movieNotFoundExceptionReturnRentalTest (0.000 s)
- duplicateMovieExceptionTest (0.001 s)
- rentedMovieExceptionTest (0.001 s)
- emptyMovieListExceptionRentMovieTest (0.001 s)
- addMovieTest (0.001 s)
- rentMovieCheckRenterArrayOrderTest (0.002 s)
- discontinueMovieTest (0.001 s)
- movieNotFoundExceptionDiscontinueMovieTest (0.001 s)
- DuplicateRenterExceptionTest (0.002 s)

This is the results of the JUnit testing, however this is does NOT test exceptions requiring user input.