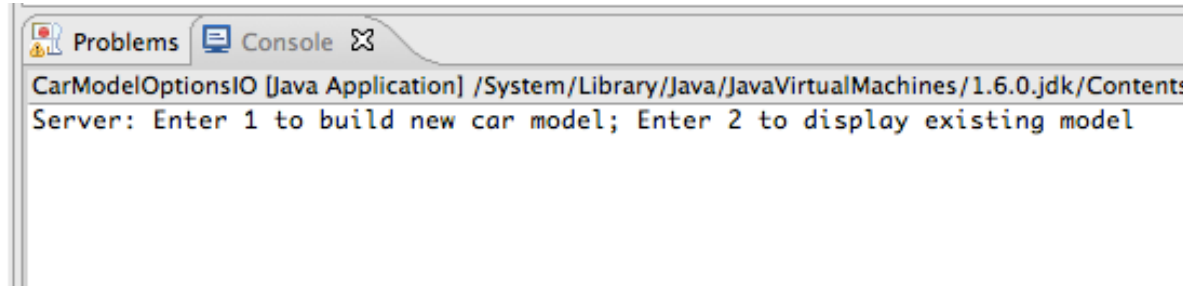


How to run the program

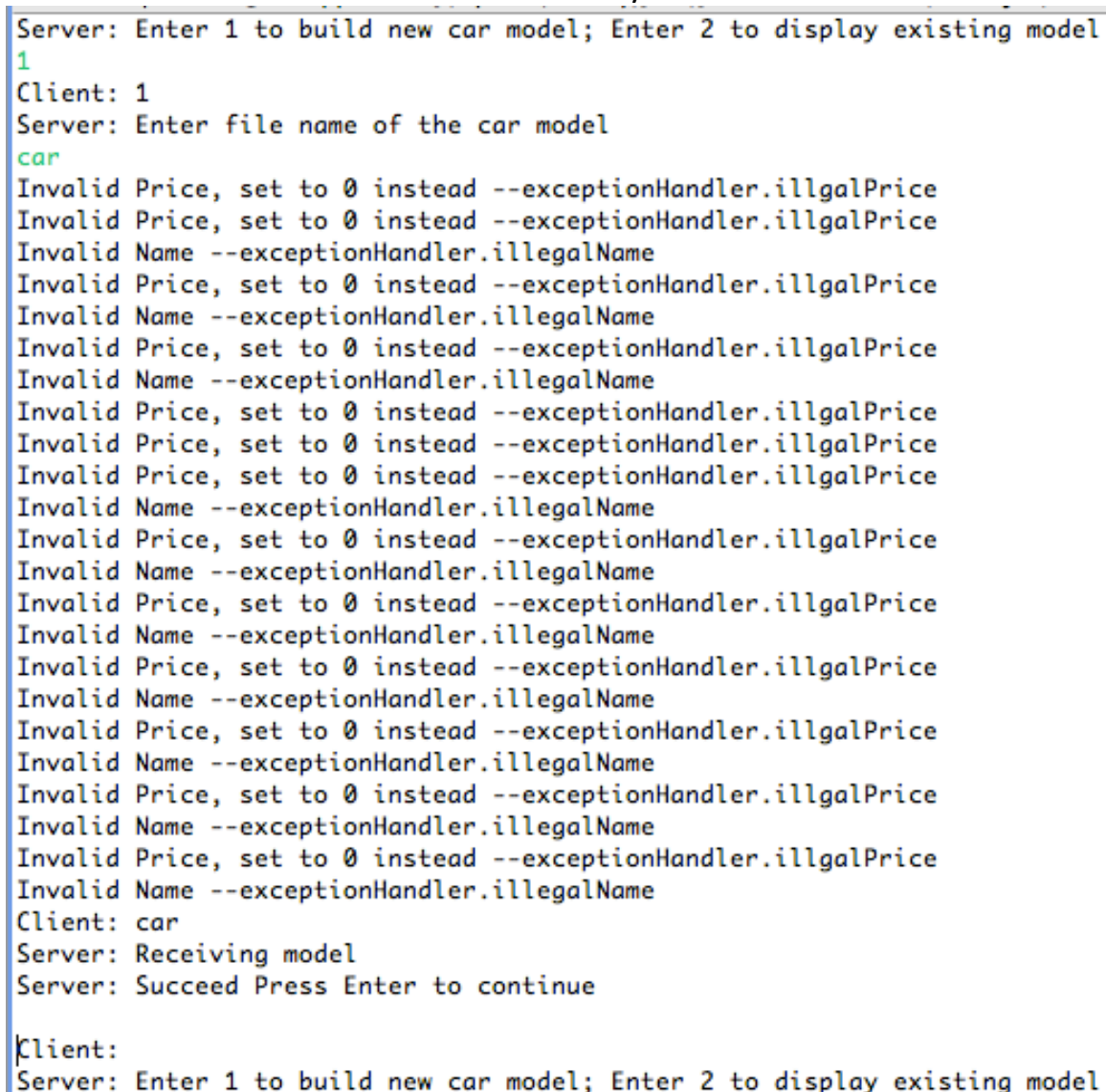
Run server first then client.

Below is a simple example of the program.



```
Problems Console
CarModelOptionsIO [Java Application] /System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Contents
Server: Enter 1 to build new car model; Enter 2 to display existing model
```

Input 1 to create a new model on the server using the file at client side. A new car will be added into the kbbSystem on server.



```
Server: Enter 1 to build new car model; Enter 2 to display existing model
1
Client: 1
Server: Enter file name of the car model
car
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Invalid Price, set to 0 instead --exceptionHandler.illegalPrice
Invalid Name --exceptionHandler.illegalName
Client: car
Server: Receiving model
Server: Succeed Press Enter to continue

Client:
Server: Enter 1 to build new car model; Enter 2 to display existing model
```

Green words are input from keyboard on client side.
Now, input 2 to display existing model at server side.

```
Client:
Server: Enter 1 to build new car model; Enter 2 to display existing model
2
Client: 2
Server: Showing
Server: Focus
Server: Wagon ZTW 1845
Server: COLOR
Server: Fort Knox Gold Clearcoat Metallic 100
Server: Liquid Grey Clearcoat Metallic 0
Server: 0 0
Server: Sangria Red Clearcoat Metallic 0
Server: French Blue Clearcoat Metallic 0
Server: Twilight Blue Clearcoat Metallic 0
Server: CD Silver Clearcoat Metallic 0
Server: Pitch Black Clearcoat 0
Server: Cloud 9 White Clearcoat 0
Server: TRANSMISSION
Server: automatic 0
Server: manual -816
Server: BRAKES\TRACTION CONTROL
Server: Standard 0
Server: ABS 400
Server: ABS with Advance Trac 1625
Server: SIDE IMPACT AIR BAGS
Server: present 350
Server: not present 0
Server: POWER MOONROOF
Server: present 595
Server: not present 0
Server: OTHER
Server: OTHER2
Server:
Server: End
Server: Press Enter to continue
```

Now, edit this car model, we need to input 1, server will ask you again if you gave it other inputs

```
Client:
Server: You're supposed to enter 0 or 1; Enter 0 return to upper level Enter 1 to edit model
2
Client: 2
Server: You're supposed to enter 0 or 1; Enter 0 return to upper level Enter 1 to edit model
1
Client: 1
Server: Input the name and model of the car you want to edit, e.g."BMW Wagon ZTW"
```

Now, input the make and model of the car

```
Client: 1
Server: Input the name and model of the car you want to edit, e.g."BMW Wagon ZTW"
focuswagonztw
Client: focuswagonztw
Server: Showing
Server: Focus
Server: Wagon ZTW 1845
Server: COLOR
Server: Fort Knox Gold Clearcoat Metallic 100
Server: Liquid Grey Clearcoat Metallic 0
Server: 0 0
Server: Sangria Red Clearcoat Metallic 0
Server: French Blue Clearcoat Metallic 0
Server: Twilight Blue Clearcoat Metallic 0
Server: CD Silver Clearcoat Metallic 0
Server: Pitch Black Clearcoat 0
Server: Cloud 9 White Clearcoat 0
Server: TRANSMISSION
Server: automatic 0
Server: manual -816
Server: BRAKES\TRACTION CONTROL
Server: Standard 0
Server: ABS 400
Server: ABS with Advance Trac 1625
Server: SIDE IMPACT AIR BAGS
Server: present 350
Server: not present 0
Server: POWER MOONROOF
Server: present 595
Server: not present 0
Server: OTHER
Server: OTHER2
Server: Press Enter to continue
```

Now, input the options set name, option name and price to replace or create new option. The new data will be displayed.

Client: 1
Server: Enter an Option Set name, option name at
color,NEWOPTION,9999999
Client: color,NEWOPTION,9999999
Server: Showing
Server: Focus
Server: Wagon ZTW 1845
Server: COLOR
Server: Fort Knox Gold Clearcoat Metallic 100
Server: Liquid Grey Clearcoat Metallic 0
Server: 0 0
Server: Sangria Red Clearcoat Metallic 0
Server: French Blue Clearcoat Metallic 0
Server: Twilight Blue Clearcoat Metallic 0
Server: CD Silver Clearcoat Metallic 0
Server: Pitch Black Clearcoat 0
Server: Cloud 9 White Clearcoat 0
Server: NEWOPTION 9999999
Server: TRANSMISSION
Server: automatic 0
Server: manual -816
Server: BRAKES\TRACTION CONTROL
Server: Standard 0
Server: ABS 400
Server: ABS with Advance Trac 1625
Server: SIDE IMPACT AIR BAGS
Server: present 350
Server: not present 0
Server: POWER MOONROOF
Server: present 595
Server: not present 0
Server: OTHER
Server: OTHER2
Server: Press Enter to continue

Keyboard Input format

Input can be upper or lower case with before and after spaces.

File Input Format

The text file uses <> and </> to separate OptionSet names, uses comma to separate option names and prices.

Input Logic

The program parse the file and construct an Automobile object, serialize and deserialize the data to recreate Automobile object.

Special Cases

Program is implemented to accept extra space at beginning or ending of each line or invalid price (e.g. No price).

Duplicated option will be overwritten by the latest record.

Duplicated OptionSet will be merged into one OptionSet.