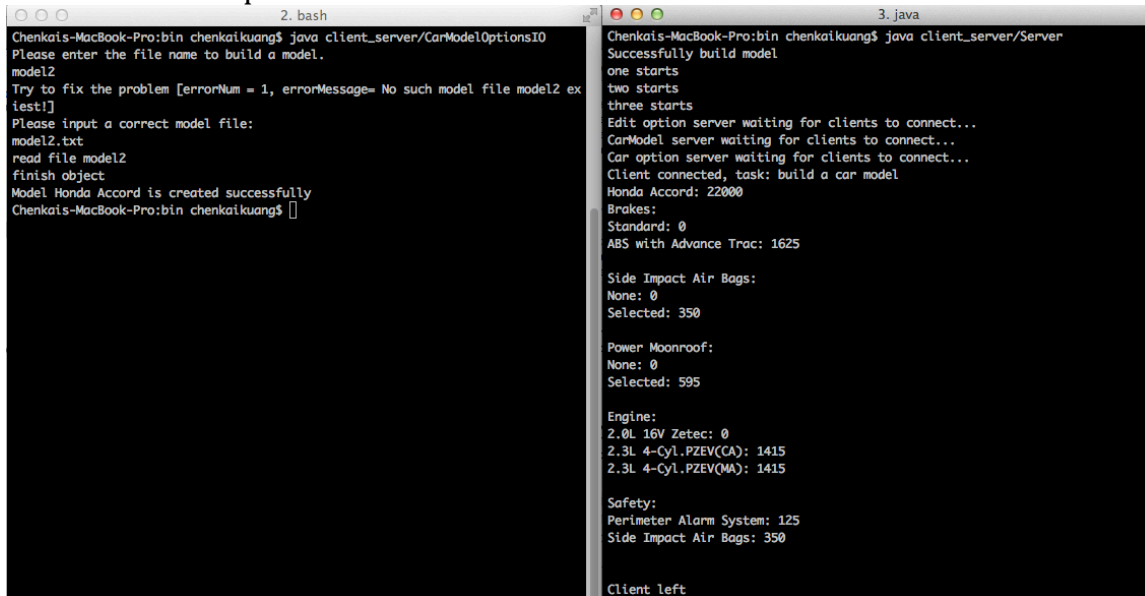


Test Result

Please note that the left terminal is the client, the right terminal is the sever

1. Test user can upload a car model from a local txt file



The screenshot shows two terminal windows side-by-side. The left window, titled '2. bash', is the client terminal. It shows the execution of `java client_server/CarModelOptionsIO`. The user is prompted to enter a file name to build a model. They enter `model2`, which results in an error: `Try to fix the problem [errorNum = 1, errorMessage= No such model file model2 exist]`. They then enter `model2.txt`, and the server successfully creates a model for a Honda Accord. The right window, titled '3. java', is the server terminal. It shows the execution of `java client_server/Server`. The server logs show it successfully built the model and is now waiting for clients to connect. It receives a connection from the client, and the task is to build a car model. The server then outputs the specifications for the Honda Accord: 22000, Brakes: Standard: 0, ABS with Advance Trac: 1625, Side Impact Air Bags: None: 0, Selected: 350, Power Moonroof: None: 0, Selected: 595, Engine: 2.0L 16V Zetec: 0, 2.3L 4-Cyl.PZEV(CA): 1415, 2.3L 4-Cyl.PZEV(MA): 1415, Safety: Perimeter Alarm System: 125, Side Impact Air Bags: 350. Finally, it logs 'Client left'.

```
Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/CarModelOptionsIO
Please enter the file name to build a model.
model2
Try to fix the problem [errorNum = 1, errorMessage= No such model file model2 exist]
Please input a correct model file:
model2.txt
read file model2
finish object
Model Honda Accord is created successfully
Chenkais-MacBook-Pro:bin chenkaikuang$

Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/Server
Successfully build model
one starts
two starts
three starts
Edit option server waiting for clients to connect...
CarModel server waiting for clients to connect...
Car option server waiting for clients to connect...
Client connected, task: build a car model
Honda Accord: 22000
Brakes:
Standard: 0
ABS with Advance Trac: 1625

Side Impact Air Bags:
None: 0
Selected: 350

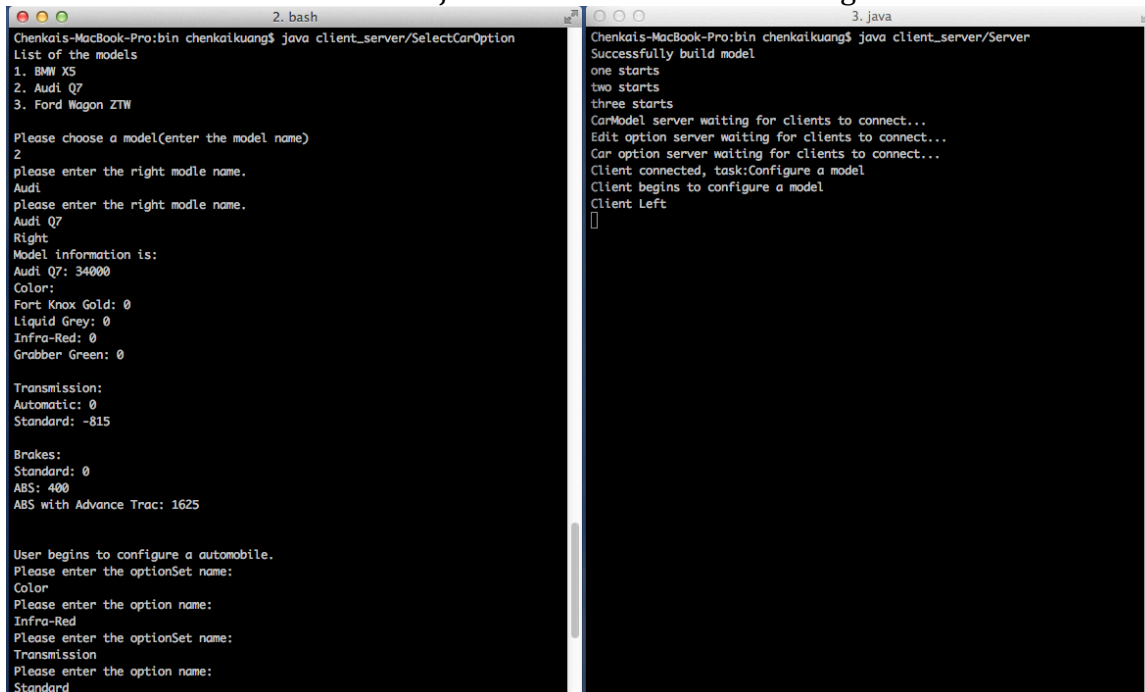
Power Moonroof:
None: 0
Selected: 595

Engine:
2.0L 16V Zetec: 0
2.3L 4-Cyl.PZEV(CA): 1415
2.3L 4-Cyl.PZEV(MA): 1415

Safety:
Perimeter Alarm System: 125
Side Impact Air Bags: 350

Client left
```

2. Test client can receive car object from the server and configure it



The screenshot shows two terminal windows side-by-side. The left window, titled '2. bash', is the client terminal. It shows the execution of `java client_server/SelectCarOption`. The server lists three models: 1. BMW X5, 2. Audi Q7, and 3. Ford Wagon ZTW. The user chooses model 2 (Audi Q7). The server then prompts the user to enter the right model name. The user enters 'Audi Q7'. The server then displays the model information for the Audi Q7: 34000, Color: Fort Knox Gold: 0, Liquid Grey: 0, Infra-Red: 0, Grabber Green: 0, Transmission: Automatic: 0, Standard: -815, Brakes: Standard: 0, ABS: 400, ABS with Advance Trac: 1625. The user then begins to configure the automobile. The server prompts the user to enter the optionSet name. The user enters 'Color'. The server then prompts the user to enter the option name. The user enters 'Infra-Red'. The server then prompts the user to enter the optionSet name. The user enters 'Transmission'. The server then prompts the user to enter the option name. The user enters 'Standard'.

```
Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/SelectCarOption
List of the models
1. BMW X5
2. Audi Q7
3. Ford Wagon ZTW

Please choose a model(enter the model name)
2
please enter the right model name.
Audi
please enter the right model name.
Audi Q7
Right
Model information is:
Audi Q7: 34000
Color:
Fort Knox Gold: 0
Liquid Grey: 0
Infra-Red: 0
Grabber Green: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

User begins to configure a automobile.
Please enter the optionSet name:
Color
Please enter the option name:
Infra-Red
Please enter the optionSet name:
Transmission
Please enter the option name:
Standard
```

```
2. bash
Grabber Green: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

User begins to configure a automobile.
Please enter the optionSet name:
Color
Please enter the option name:
Infra-Red
Please enter the optionSet name:
Transmission
Please enter the option name:
Standard
Please enter the optionSet name:
Brake
Please enter the option name:
ABS
Try to fix the problem [errorNum = 3, errorMessage= optionSet Brake doesn't exist.]
Please input a correct OptionSet:
Brakes

Your configure is:
Color:
Infra-Red: 0
Transmission:
Standard: -815
Brakes:
ABS: 400
The total price is:33585

Chenkais-MacBook-Pro:bin chenkaikuang$

3. java
Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/Server
Successfully build model
one starts
two starts
three starts
Edit option server waiting for clients to connect...
Car option server waiting for clients to connect...
CarModel server waiting for clients to connect...
Client connected, task:Configure a model
Client begins to configure a model
Client Left
[]
```

3. Test editOption

```
2. bash
Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/EditOptionClient
Now list all the models:
1. BMW X5
2. Audi Q7
3. Ford Wagon ZTW
Client Please choose a model(use the number)
5
Client Please enter a number and choose again!
Audi Q
Client Please enter a number and choose again!
2
Audi Q7: 34000
Color:
Fort Knox Gold: 0
Liquid Grey: 0
Infra-Red: 0
Grabber Green: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

Client Please choose what you want to do:
1. edit OptionSet
2. edit Option in a given OptionSet
1
Client Please choose what you want to do:
1. Add an OptionSet
2. Delete a given OptionSet
3. Change the OptionSet name
2
Client Please enter the OptionSet name you want to delete
Colo
Try to fix the problem [errorNum = 3, errorMessage= optionSet Colo doesn't exist.]

3. java
Chenkais-MacBook-Pro:bin chenkaikuang$ java client_server/Server
Successfully build model
one starts
two starts
three starts
CarModel server waiting for clients to connect...
Edit option server waiting for clients to connect...
Car option server waiting for clients to connect...
Client connected, task: EditOption
Client begins to edit option
Edit option finished. The new modelSet Info:
BMW X5: 35000
Color:
Fort Knox Gold: 0
Liquid Grey: 0
Infra-Red: 0
Grabber Green: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS with Advance Trac: 1625

Side Impact Air Bags:
None: 0
Selected: 350

Power Moonroof:
None: 0
Selected: 595

Engine:
2.0L 16V Zetec: 0
2.3L 4-Cyl.PZEV(CA): 1415
2.3L 4-Cyl.PZEV(QA): 1415

Safety:
```

```
2. bash
Infra-Red: 0
Grabber Green: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

Client Please choose what you want to do:
1. edit OptionSet
2. edit Option in a given OptionSet
1
Client Please choose what you want to do:
1. Add an OptionSet
2. Delete a given OptionSet
3. Change the OptionSet name
2
Client Please enter the OptionSet name you want to delete
Colo
Try to fix the problem [errorNum = 3, errorMessage= optionSet Colo doesn't exist
.]
Please input a correct OptionSet:
Color
Audi Q7: 34000
Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

Update the option information to server....
Chenka's-MacBook-Pro:bin chenkaikuang$

3. java
Audi Q7: 34000
Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

Ford Wagon ZTW: 19000
Color:
Fort Knox Gold: 0
Liquid Grey: 0
Infra-Red: 0
Grabber Green: 0
Sangria Red: 0
CD Silver: 0
Pitch Black: 0
Cloud 9 White: 0

Transmission:
Automatic: 0
Standard: -815

Brakes:
Standard: 0
ABS: 400
ABS with Advance Trac: 1625

Side Impact Air Bags:
None: 0
Selected: 350

Power Moonroof:
None: 0
Selected: 595
```