

Project1_Unit2

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Overall understanding of unit2:

As for this unit2, PartB is based on PartA. The main difference is the data type of Optionset and Automobile . If we choose arrays to store the car's info, we would could easily access data through index. However if we choose list and hashmap to store data, we could easily append new data, and if we want to delete and set or update list we should use iterator.

In PartA, I strictly follow the requirements and give adequate test. We have five packages for this part:

Adaptor :

BuildAuto: a class implements all functions of proxyAutomobile, CreateAuto, UpdateAuto, mainly used for hiding all these function from users.

CreateAuto: an interface, used to build auto object and print auto object

FixAuto: an interface, used to fix the exceptions

proxyAutomobile: encapsulate all "CRUD" operations for automobile

UpdateAuto: an interface, used to update the OptionSet and Option

Exception:

AutoException: implements FixAuto used to fix exceptions:

ExceptionNum: to enumerate all exceptions

Helpers: include different fix methods for different exceptions

log: used to record the timestamp of exception and the err message of exception

Model:

Automobile: encapsulate all necessary operations and attributes for car

OptionSet: encapsulate all optionset and options' operation and attributes

Util:

FileIO: used to build auto object and serialization and deserialization

- Test for PartA
- *****output the car's info*****
- car name:Focus Wagon ZTW
- the OptionSet name:Color
- Option [name=Fort Knox Gold Clearcoat Metallic, price=0.0]
- Option [name=Liquid Grey Clearcoat Metallic, price=0.0]
- Option [name=Infra-Red Clearcoat, price=0.0]
- Option [name=Grabber Green Clearcoat Metallic, price=0.0]
- Option [name=Sangria Red Clearcoat Metallic, price=0.0]
- Option [name=French Blue Clearcoat Metallic, price=0.0]
- Option [name=Twilight Blue Clearcoat Metallic, price=0.0]
- Option [name=CD Silver Clearcoat Metallic, price=0.0]
- Option [name=Pitch Black Clearcoat, price=0.0]
- Option [name=Cloud 9 White Clearcoat, price=0.0]
- the OptionSet name:Transmission
- Option [name=Automatic, price=0.0]
- Option [name=Standard, price=-815.0]
- the OptionSet name:Brakes/Traction Control
- Option [name=Standard, price=0.0]
- Option [name=ABS, price=400.0]
- Option [name=ABS with Advance Trac, price=1625.0]
- the OptionSet name:Side Impace Air Bags
- Option [name=None, price=0.0]
- Option [name=If Selected, price=350.0]
- the OptionSet name:Power Moonroof
- Option [name=None, price=0.0]
- Option [name=If Selected, price=595.0]

- *****test update: update the setName of Color to ColorSet*****
- car name:Focus Wagon ZTW
- the OptionSet name:ColorSet
- Option [name=Fort Knox Gold Clearcoat Metallic, price=0.0]
- Option [name=Liquid Grey Clearcoat Metallic, price=0.0]
- Option [name=Infra-Red Clearcoat, price=0.0]
- Option [name=Grabber Green Clearcoat Metallic, price=0.0]
- Option [name=Sangria Red Clearcoat Metallic, price=0.0]
- Option [name=French Blue Clearcoat Metallic, price=0.0]
- Option [name=Twilight Blue Clearcoat Metallic, price=0.0]
- Option [name=CD Silver Clearcoat Metallic, price=0.0]
- Option [name=Pitch Black Clearcoat, price=0.0]
- Option [name=Cloud 9 White Clearcoat, price=0.0]
- the OptionSet name:Transmission
- Option [name=Automatic, price=0.0]
- Option [name=Standard, price=-815.0]
- the OptionSet name:Brakes/Traction Control
- Option [name=Standard, price=0.0]
- Option [name=ABS, price=400.0]
- Option [name=ABS with Advance Trac, price=1625.0]
- the OptionSet name:Side Impace Air Bags
- Option [name=None, price=0.0]
- Option [name=If Selected, price=350.0]
- the OptionSet name:Power Moonroof
- Option [name=None, price=0.0]
- Option [name=If Selected, price=595.0]

- *****test update: update the option price*****
- car name:Focus Wagon ZTW
- the OptionSet name:ColorSet
- Option [name=Fort Knox Gold Clearcoat Metallic, price=0.0]
- Option [name=Liquid Grey Clearcoat Metallic, price=0.0]
- Option [name=Infra-Red Clearcoat, price=0.0]
- Option [name=Grabber Green Clearcoat Metallic, price=0.0]
- Option [name=Sangria Red Clearcoat Metallic, price=0.0]
- Option [name=French Blue Clearcoat Metallic, price=0.0]
- Option [name=Twilight Blue Clearcoat Metallic, price=0.0]
- Option [name=CD Silver Clearcoat Metallic, price=0.0]
- Option [name=Pitch Black Clearcoat, price=0.0]
- Option [name=Cloud 9 White Clearcoat, price=0.0]
- the OptionSet name:Transmission
- **Option [name=Automatic, price=200.0](update from 0 to 200)**
- Option [name=Standard, price=-815.0]
- the OptionSet name:Brakes/Traction Control
- Option [name=Standard, price=0.0]
- Option [name=ABS, price=400.0]
- Option [name=ABS with Advance Trac, price=1625.0]
- the OptionSet name:Side Impace Air Bags
- Option [name=None, price=0.0]
- Option [name=If Selected, price=350.0]
- the OptionSet name:Power Moonroof
- Option [name=None, price=0.0]
- Option [name=If Selected, price=595.0]
- serilization successful!

- =====
- now begin deserilization!
- car name:Focus Wagon ZTW
- the OptionSet name:ColorSet
- Option [name=Fort Knox Gold Clearcoat Metallic, price=0.0]
- Option [name=Liquid Grey Clearcoat Metallic, price=0.0]
- Option [name=Infra-Red Clearcoat, price=0.0]
- Option [name=Grabber Green Clearcoat Metallic, price=0.0]
- Option [name=Sangria Red Clearcoat Metallic, price=0.0]
- Option [name=French Blue Clearcoat Metallic, price=0.0]
- Option [name=Twilight Blue Clearcoat Metallic, price=0.0]
- Option [name=CD Silver Clearcoat Metallic, price=0.0]
- Option [name=Pitch Black Clearcoat, price=0.0]
- Option [name=Cloud 9 White Clearcoat, price=0.0]
- the OptionSet name:Transmission
- Option [name=Automatic, price=200.0]
- Option [name=Standard, price=-815.0]
- the OptionSet name:Brakes/Traction Control
- Option [name=Standard, price=0.0]
- Option [name=ABS, price=400.0]
- Option [name=ABS with Advance Trac, price=1625.0]
- the OptionSet name:Side Impace Air Bags
- Option [name=None, price=0.0]
- Option [name=If Selected, price=350.0]
- the OptionSet name:Power Moonroof
- Option [name=None, price=0.0]
- Option [name=If Selected, price=595.0]

- PartB: include five packages
- **Adaptor :**
 - BuildAuto: a class implements all functions of proxyAutomobile, CreateAuto, UpdateAuto, mainly used for hiding all these function from users.
 - CreateAuto: an interface, used to build auto object and print auto object
 - FixAuto: an interface, used to fix the exceptions
 - proxyAutomobile: encapsulate all “CRUD” operations for automobile
 - UpdateAuto: an interface, used to update the OptionSet and Option
- **Exception:**
 - AutoException: implements FixAuto used to fix exceptions:
 - ExceptionNum: to enumerate all exceptions
 - Helpers: include different fix methods for different exceptions
 - log: used to record the timestamp of exception and the err message of exception
- **Model:**
 - Automobile: encapsulate all necessary operations and attributes for car
 - OptionSet: encapsulate all optionset and options’ operation and attributes
- **Util:**
 - FileIO: used to build auto object and serialization and deserialization
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Test for PartB

***** Print autoinfo *****

Focus Wagon ZTW

Base Price :18455.0

Color:

Fort Knox Gold Clearcoat Metallic:Price 0.0

Liquid Grey Clearcoat Metallic:Price 0.0

Infra-Red Clearcoat:Price 0.0

Grabber Green Clearcoat Metallic:Price 0.0

Sangria Red Clearcoat Metallic:Price 0.0

French Blue Clearcoat Metallic:Price 0.0

Twilight Blue Clearcoat Metallic:Price 0.0

CD Silver Clearcoat Metallic:Price 0.0

Pitch Black Clearcoat:Price 0.0

Cloud 9 White Clearcoat:Price 0.0

Transmission:

Automatic:Price 0.0

Standard:Price -815.0

Brakes/Traction Control:

Standard:Price 0.0

ABS:Price 400.0

ABS with Advance Trac:Price 1625.0

Side Impact Airbags:

None:Price 0.0

Selected:Price 350.0

Power Moonroof:

None:Price 0.0

Selected:Price 595.0

- ***** Test OptionSet *****
- Focus Wagon ZTW
- Base Price :18455.0
- **ColorSet: (update option set name from color to colorset)**
 - Fort Knox Gold Clearcoat Metallic:Price 0.0
 - Liquid Grey Clearcoat Metallic:Price 0.0
 - Infra-Red Clearcoat:Price 0.0
 - Grabber Green Clearcoat Metallic:Price 0.0
 - Sangria Red Clearcoat Metallic:Price 0.0
 - French Blue Clearcoat Metallic:Price 0.0
 - Twilight Blue Clearcoat Metallic:Price 0.0
 - CD Silver Clearcoat Metallic:Price 0.0
 - Pitch Black Clearcoat:Price 0.0
 - Cloud 9 White Clearcoat:Price 0.0
- Transmission:
 - Automatic:Price 0.0
 - Standard:Price -815.0
- Brakes/Traction Control:
 - Standard:Price 0.0
 - ABS:Price 400.0
 - ABS with Advance Trac:Price 1625.0
- Side Impact Airbags:
 - None:Price 0.0
 - Selected:Price 350.0
- Power Moonroof:
 - None:Price 0.0
 - Selected:Price 595.0

- ***** Test Option *****
- Focus Wagon ZTW
- Base Price :18455.0
- ColorSet:
 - Fort Knox Gold Clearcoat Metallic:Price 0.0
 - Liquid Grey Clearcoat Metallic:Price 0.0
 - Infra-Red Clearcoat:Price 0.0
 - Grabber Green Clearcoat Metallic:Price 0.0
 - Sangria Red Clearcoat Metallic:Price 0.0
 - French Blue Clearcoat Metallic:Price 0.0
 - Twilight Blue Clearcoat Metallic:Price 0.0
 - CD Silver Clearcoat Metallic:Price 0.0
 - Pitch Black Clearcoat:Price 0.0
 - Cloud 9 White Clearcoat:Price 0.0
- Transmission:
 - **Automatic:Price 200.0(update the price from 0 to 200)**
 - Standard:Price -815.0
- Brakes/Traction Control:
 - Standard:Price 0.0
 - ABS:Price 400.0
 - ABS with Advance Trac:Price 1625.0
- Side Impact Airbags:
 - None:Price 0.0
 - Selected:Price 350.0
- Power Moonroof:
 - None:Price 0.0
 - Selected:Price 595.0

- ***** Test Choice *****
- Base price is : 18455.0
- Option : Fort Knox Gold Clearcoat
MetallicPrice : 0.0
- Option : AutomaticPrice : 0.0
- Option : ABSPrice : 400.0
- Option : SelectedPrice : 350.0
- Option : SelectedPrice : 595.0
- The total price is 19800.0

• Test for exceptions handling

```
**** Print autoinfo ****  
  
Time:2016-02-07 23:07:59Missing the price for Automobile in text file!Pls input the price  
18455  
Focus Wagon ZTW  
Base Price :18455.0  
  
Color:  
Fort Knox Gold Clearcoat Metallic:Price 0.0  
Liquid Grey Clearcoat Metallic:Price 0.0  
Infra-Red Clearcoat:Price 0.0  
Grabber Green Clearcoat Metallic:Price 0.0  
Sangria Red Clearcoat Metallic:Price 0.0  
French Blue Clearcoat Metallic:Price 0.0  
Twilight Blue Clearcoat Metallic:Price 0.0  
CD Silver Clearcoat Metallic:Price 0.0  
Pitch Black Clearcoat:Price 0.0  
Cloud 9 White Clearcoat:Price 0.0  
  
Transmission:  
Automatic:Price 0.0  
Standard:Price -815.0  
  
Brakes/Traction Control:  
Standard:Price 0.0  
ABS:Price 400.0  
ABS with Advance Trac:Price 1625.0  
  
Side Impact Airbags:  
None:Price 0.0  
Selected:Price 350.0  
  
Power Moonroof:  
None:Price 0.0  
Selected:Price 595.0
```

***** Print autoinfo *****

Time:2016-02-07 23:26:21Missing the opsetName! Please input the opsetname

Transmission

Focus Wagon ZTW

Base Price :18455.0

Color:

Fort Knox Gold Clearcoat Metallic:Price 0.0

Liquid Grey Clearcoat Metallic:Price 0.0

Infra-Red Clearcoat:Price 0.0

Grabber Green Clearcoat Metallic:Price 0.0

Sangria Red Clearcoat Metallic:Price 0.0

French Blue Clearcoat Metallic:Price 0.0

Twilight Blue Clearcoat Metallic:Price 0.0

CD Silver Clearcoat Metallic:Price 0.0

Pitch Black Clearcoat:Price 0.0

Cloud 9 White Clearcoat:Price 0.0

Transmission:

Automatic:Price 0.0

Standard:Price -815.0

Brakes/Traction Control:

Standard:Price 0.0

ABS:Price 400.0

ABS with Advance Trac:Price 1625.0

Side Impact Airbags:

None:Price 0.0

Selected:Price 350.0

Power Moonroof:

None:Price 0.0

Selected:Price 595.0

Time:2016-02-07 23:30:16Missing the Option Name!Please input the Option Name

Automatic

Focus Wagon ZTW

Base Price :18455.0

Color:

Fort Knox Gold Clearcoat Metallic:Price 0.0

Liquid Grey Clearcoat Metallic:Price 0.0

Infra-Red Clearcoat:Price 0.0

Grabber Green Clearcoat Metallic:Price 0.0

Sangria Red Clearcoat Metallic:Price 0.0

French Blue Clearcoat Metallic:Price 0.0

Twilight Blue Clearcoat Metallic:Price 0.0

CD Silver Clearcoat Metallic:Price 0.0

Pitch Black Clearcoat:Price 0.0

Cloud 9 White Clearcoat:Price 0.0

Transmission:

Automatic:Price 0.0

Standard:Price -815.0

Brakes/Traction Control:

Standard:Price 0.0

ABS:Price 400.0

ABS with Advance Trac:Price 1625.0

Side Impact Airbags:

None:Price 0.0

Selected:Price 350.0

Power Moonroof:

None:Price 0.0

Selected:Price 595.0

***** Print autoinfo *****

Time:2016-02-07 23:44:50Missing the Option price! Please input the Option price

0

Focus Wagon ZTW

Base Price :18455.0

Color:

Fort Knox Gold Clearcoat Metallic:Price 0.0

Liquid Grey Clearcoat Metallic:Price 0.0

Infra-Red Clearcoat:Price 0.0

Grabber Green Clearcoat Metallic:Price 0.0

Sangria Red Clearcoat Metallic:Price 0.0

French Blue Clearcoat Metallic:Price 0.0

Twilight Blue Clearcoat Metallic:Price 0.0

CD Silver Clearcoat Metallic:Price 0.0

Pitch Black Clearcoat:Price 0.0

Cloud 9 White Clearcoat:Price 0.0

Transmission:

Automatic:Price 0.0

Standard:Price -815.0

Brakes/Traction Control:

Standard:Price 0.0

ABS:Price 400.0

ABS with Advance Trac:Price 1625.0

Side Impact Airbags:

None:Price 0.0

Selected:Price 350.0

Power Moonroof:

None:Price 0.0

Selected:Price 595.0

***** Print autoinfo *****

Time:2016-02-07 23:59:20Missing the car model in test file ! Please enter the value.

vdds

Error err: CarModelNotFound, no: 9

=====

***** Test OptionSet *****

Time:2016-02-07 23:59:25Missing the car model in test file ! Please enter the value.