Markus Signitzer, FSST 3rd year

Big Business

Imagine you have finished your programming education at the HTL and are eager to start working. Your very enthusiastic friend Tony comes along and tells you how he is going to make lots of money in the car sales business if you could just write a little software for him to keep track of all his cars.
You agree to help him, but knowing how quickly Tony changes his ideas and plans, you decide to start cautiously and mentally prepare for a lot of specification changes (maybe he wants to sell ice-cream too …) and think back to your lectures about inheritance and interfaces.

- Episode One:
  "Family cars are in fashion right now – we will specialize in family cars" says Tony. So you ask him what is so special about family cars and according to him, they have lots of doors for easy access.
  `Create a class Vehicle. Vehicle should have the fields price and brand (a string), and the methods drive(), getPrice() and __str___().`
  `drive() should just print to the system “Driving the {}“.format(brand);`
  `getPrice() should return the price;`
  `__str__() shall return the String “This {} costs {}”.format(brand,price)`

  `Create a subclass of Vehicle called FamilyCar which adds an additional field doors. FamilyCar should override the __str__() method in such a way that it calls its super method and adds “ and has {} doors”.format(doors) to the String.`

  `Test your code by creating a list called my_garage and add at least two FamilyCar objects to it. Then loop through your garage and print all Vehicles in your garage.`

- Episode Two:
  "Well, FamiliyCars are boring, we need another type of car. We need 4 wheel drive country cars" says Tony just as you are finished implementing your program! Ah, you knew that was going to happen :(
  `Create a new subclass called FourWheelDrive which has only one new method called offRoad(). The offRoad() Method should just print a silly sentence about the coolness of off road driving.`
  `Overwrite the __str__() method so that it calls its super method and adds some statement about 4x4 coolness.`

  `Test you code again by adding two FamilyCars and two FourWheelDrives to your garage.`

- Episode Three:
  "Well, sales are picking up, but we need another pillar in our business – lets get into trucks, because trucks are always big business" says Tony just a week after you finished the country cars, and then he adds "The cool thing about trucks is that they can pull trailers, and I promise, it will be the last change!".

Create a sub class of Vehicle called Truck which which has the pullTrailer() method. Overwrite the __str__() method so that it calls its super method and adds some statement about pulling trailers.

- Episode Four:
  “Ahm, sorry but we need another change, see there are these 4x4 Trucks and they are just soo cool, we need to sell them!!!”
  Create a new subclass of FourWheelDrive called CountryTruck which implements pullTrailer() method and inherits the offRoad() method from FourWheelDrive . Update the __str__() method accordingly and add at least two CountryTrucks to the garage list for testing.

- Episode Five:
  “Sorry again but ...” - “NO, YOU ARE NOT – NO MORE SORRIES - I QUIT !!!” is what you yell as loud as you can. You finish your project, run a final Test, add java doc and a decent UML class diagram, zip the whole stuff up and hand it in.

Have fun coding … Markus Signitzer