

Interfaces

1. IComparer and IComparable for Car

```
class Car
{
    public string Make { get; set; }
    public string Model { get; set; }
    public double Price { get; set; }
}
```

Consider the class Car and the code below.

```
List<Car> cars = new List<Car>()
{
    new Car(){Make="Skoda", Model = "Fabia", Price = 50000},
    new Car(){Make="Skoda", Model = "Octavia", Price = 60000}
    ... and many more ...
};
```

Do the following

- a. Implement the IComparable interface on Car, to sort the list of cars by Price
 - b. Implement the interface IComparer<Car> to sort cars by Make, then by Model and lastly by Price
 - c. Implement the interface IComparer<Car> to sort cars by Model, and then by Price in reverse order.
2. The interface ITaxable
- For the purpose of this exercise you are given a couple of very simple classes called Bus and House. Class Bus specializes the class Vehicle. Class House specializes the class FixedProperty. All the classes can be found [here](http://people.cs.aau.dk/~normark/oop-csharp/html/notes/source-programs/more-inheritance/user/normark/oop-csharp-1/sources/c-sharp/interfaces/car-house/classes.txt)¹.
- First in this exercise, program an interface ITaxable with a parameterless operation TaxValue. The operation should return a decimal number.
- Next, program variations of class House and class Bus which implement the interface ITaxable. Feel free to invent the concrete taxation of houses and busses. Notice that both class House and Bus have a superclass, namely FixedProperty and Vehicle, respectively. Therefore, it is essential that taxation is introduced via an interface.
- Demonstrate that taxable house objects and taxable bus objects can be used together as objects of type ITaxable.
3. [An abstract GameObject class](http://people.cs.aau.dk/~normark/oop-csharp/html/notes/source-programs/more-inheritance/user/normark/oop-csharp-1/sources/c-sharp/interfaces/car-house/classes.txt) from <http://people.cs.aau.dk/~normark/oop-csharp/html/notes/source-programs/more-inheritance/user/normark/oop-csharp-1/sources/c-sharp/interfaces/car-house/classes.txt>

¹ <http://people.cs.aau.dk/~normark/oop-csharp/html/notes/source-programs/more-inheritance/user/normark/oop-csharp-1/sources/c-sharp/interfaces/car-house/classes.txt>