Questions and Exercises: Object-Oriented Programming Concepts

Questions

1.Real-world objects contain state and behavior.
2.A software object's state is stored in fields of class.
3.A software object's behavior is exposed through methods of a class.
4.Hiding internal data from the outside world, and accessing it only through publicly exposed methods is known as data encapsulation.
5.A blueprint for a software object is called a class.
6.Common behavior can be defined in a superclass and inherited into a subclass using the extends keyword.
7.A collection of methods with no implementation is called an interface.
8.A namespace that organizes classes and interfaces by functionality is called a package.
9.The term API stands for application program interface?

Exercises

1.Create new classes for each real-world object that you observed at the beginning of this trail. Refer to the Bicycle class if you forget the required syntax.

```
public class bicicleta_montaña extends Bicycle
{
   int plato=0;

   void changePlato(int Nvalor)
   {
      plato=Nvalor;
   }
}

public class tandem extends Bicycle
{
   int num_asientos=2;
   int pedales=2;
   int num_manillares=2;


   void change_num_asientos_pedales_manillares(int NValor)
   {
      num_asientos=NValor; pedales=NValor; num_manillares=NValor;
   }
}
```

2.For each new class that you've created above, create an interface that defines its behavior, then require your class to implement it. Omit one or two methods and try compiling. What does the error look like?

```
interface tandem
{
   void changeCadence(int newValue);

   void changeGear(int newValue);

   void speedUp(int increment);

   void applyBrakes(int decrement);
}

interface bicicleta_montaña
{
   void changeCadence(int newValue);

   void changeGear(int newValue);

   void speedUp(int increment);

   void applyBrakes(int decrement);

}
```

error: a list the required methods that have not been implemented.