Java assignment 1

This assignment is done in a way which an objects data is encapsulated and stored within the object, methods are called in retrieving information or setting values to the particular object, this is how I designed the simulation of this concept.

The car contains an engine and the engine contains a wheel, they communicate to each other via mutator/getter methods and also object references

```
public class TestCar

{

    public static void main(String[] args)

    {

        //Configure your car here make it as slick as you want you can customize
its attributes

        Car car = new Car("ferrari");

        Engine engine = new Engine("superfast" , 5);

        if (engine.getTPL() < 0){System.out.println("I have yet to see a car with
negative turns per litre, wipe your glasses and enter a valid value");}

     else

     {   Wheel wheel = new Wheel("slick rims" , 4.5);

          if (wheel.getWheelRad() < 0) { System.out.println("I have yet to see a
car with negative wheel radius, wipe your glasses and enter a valid value");}

          else

       {

          car.add(engine);

          engine.add(wheel);


        //Add how much fuel you want, Note : car will use it all up in one go

        car.addFuel(13);

        System.out.println("Current fuel level : " + car.getFuelLevel());


        if (car.getFuelLevel() > 0)
```

```
        {
         //Car uses all fuel when drive is called so add more fuel if you want
to drive more
         //Can check the status any time with printstate
         car.drive();
         car.printState();
         car.addFuel(2);
         System.out.println("
");
         System.out.println("Current fuel level : " + car.getFuelLevel());
         car.drive();
         car.printState();

        }
        else
         {
           System.out.println("You cant have negative fuel you muppet, Try
again");
         }
      }
    }
  }
}
```

Rest of the class files uploaded as java files this is just an overview compiles relatively similar to sample code.

SAMPLE CODE OUTPUT :

Current fuel level : 13

Car configuration : ferrari

Engine name : superfast

Wheel name : slick rims

Wheel circumference : 28.274333882308138

Distance travelled this drive : 1837.831702350029

Total distance travelled : 1837.831702350029

Total number of engine turn count: 65

Current fuel level : 2

Car configuration : ferrari

Engine name : superfast

Wheel name : slick rims

Wheel circumference : 28.274333882308138

Distance travelled this drive : 282.7433388230814

Total distance travelled : 2120.5750411731105

Total number of engine turn count: 75