**package** vehicle;

**import** java.util.Scanner;

**public** **class** FuelEfficiencies

{

**public** **static** **void** main(String[] args)

{

//Object creation/instantiation

Scanner sc = **new** Scanner(System.***in***);

**double** fuel;

Car car = **new** Car(9.4);

Truck truck = **new** Truck(14.1);

HybridCar hybrid = **new** HybridCar(3.8);

Motorcycle motor = **new** Motorcycle(6.3);

System.***out***.println("Vehicle Fuel Efficiencies\n=================================");

System.***out***.println("Enter the amount of fuel that each vehicle will be running on:");

fuel = sc.nextDouble();

System.***out***.println("On " + fuel + "L of gas, each vehicle will travel:\n");

System.***out***.println("Car: " + car.getDistance(fuel) + " KM");

System.***out***.println("Truck: " + truck.getDistance(fuel) + " KM");

System.***out***.println("Hybrid: " + hybrid.getDistance(fuel) + " KM");

System.***out***.println("Motorcycle: " + motor.getDistance(fuel) + " KM");

}//end main

}//end class

**package** vehicle;

**public** **class** Vehicle

{

//Private instance variable

**private** **double** fuelEfficiency;

//constructor

**public** Vehicle(**double** fE)

{

fuelEfficiency = fE;

}//end constrcutor

//method

**public** **double** getDistance(**double** fuel)

{

**return** (fuel/fuelEfficiency) \* 100;

}//end getDistance

}//end class

**package** vehicle;

**public** **class** Car **extends** Vehicle

{

//Private instance variable

**private** **double** fuelEfficiency;

//constructor

**public** Car(**double** fE)

{

**super**(fE);

}//end constructor

**public** **double** getFuelEfficiency() {

**return** fuelEfficiency;

}

**public** **void** setFuelEfficiency(**double** fuelEfficiency) {

**this**.fuelEfficiency = fuelEfficiency;

}

}

**package** vehicle;

**public** **class** Truck **extends** Vehicle

{

//Private instance variable

**private** **double** fuelEfficiency;

//constructor

**public** Truck(**double** fE)

{

**super**(fE);

}//end constructor

**public** **double** getFuelEfficiency() {

**return** fuelEfficiency;

}

**public** **void** setFuelEfficiency(**double** fuelEfficiency) {

**this**.fuelEfficiency = fuelEfficiency;

}

}

**package** vehicle;

**public** **class** HybridCar **extends** Vehicle

{

//Private instance variable

**private** **double** fuelEfficiency;

//constructor

**public** HybridCar(**double** fE)

{

**super**(fE);

}//end constructor

**public** **double** getFuelEfficiency() {

**return** fuelEfficiency;

}

**public** **void** setFuelEfficiency(**double** fuelEfficiency) {

**this**.fuelEfficiency = fuelEfficiency;

}

}

**package** vehicle;

**public** **class** Motorcycle **extends** Vehicle

{

//Private instance variable

**private** **double** fuelEfficiency;

//constructor

**public** Motorcycle(**double** fE)

{

**super**(fE);

}//end constructor

**public** **double** getFuelEfficiency() {

**return** fuelEfficiency;

}

**public** **void** setFuelEfficiency(**double** fuelEfficiency) {

**this**.fuelEfficiency = fuelEfficiency;

}

}

