

## Practice with Copy Constructors

The following code shows the member data and constructor for a Mustang. You have one Mustang and you love it so much you want another one just like it.

```
public class Mustang {
    Wheel wheels[];
    Engine engine;
    Transmission tranny;
    int numGears;

    public Mustang() {
        wheels = new Wheel[4];
        for (int i=0; i<4; i++)
            wheels[i] = new Wheel();

        engine = new Engine();
        tranny = new Transmission("4WD");
        numGears = 6; // 5 forward, 1 reverse
    }

    public static void main(String[] args) {
        Mustang car = new Mustang; // my old car
        Mustang car2 = car;        // my new car
    }
}
```

1. What's wrong with the code in main? Why doesn't it create 2 cars? Draw a memory picture that explains the problem.
2. Create a copy constructor for the Mustang class.
3. Fix the code in main so it uses your copy constructor.