

## Bereich: Abstrakte Klassen

### Fahrzeuge, Wettrennen (2)

### Musterlösung

**Package:** de.dhbwka.java.exercise.classes.abstr

**Klasse:** Race

**Nur die Änderungen gegenüber der Original-Lösung (nur 3 Klassen sind betroffen):**

```
package de.dhbwka.java.exercise.classes.abstr;

/**
 * Part of lectures on 'Programming in Java'. Baden-Wuerttemberg
 * Cooperative State University.
 *
 * (C) 2016-2018 by W. Geiger, T. Schlachter, C. Schmitt, W. Suess
 *
 * @author DHBW lecturer
 * @version 1.2
 */
public abstract class Vehicle {

    private int wheels;
    private double speed;
    private double maxSpeed;
    private double position;

    public Vehicle() {
        this( 0.0 );
    }

    public Vehicle( double speed ) {
        this( 0, speed, 0.0, 0.0 );
    }

    protected Vehicle( int wheels, double speed, double maxSpeed,
        double position ) {
        this.setWheels( wheels );
        this.setMaxSpeed( maxSpeed );
        this.setSpeed( speed ); // after setMaxSpeed!
        this.setPosition( position );
    }

    public abstract void info(); // just the definition, no implementation

    // further methods ...
}
```

**Hinweis:**

Die Konstruktoren bleiben stehen, da sie in den Unterklassen per `super (...)` verwendet werden.

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 */  
public class Car extends Vehicle {  
  
    // constructors ...  
  
    @Override  
    public void info() {  
        System.out.println( this.toString() );  
    }  
  
}
```

```
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 * @author DHBW lecturer  
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 */  
public class Bicycle extends Vehicle {  
  
    // constructors ...  
  
    @Override  
    public void info() {  
        System.out.println( this.toString() );  
    }  
  
}
```