

Bereich: Strings

Quersumme

Musterlösung

Package: de.dhbwka.java.exercise.strings

Klasse: CrossTotal

```
package de.dhbwka.java.exercise.strings;

import java.util.Scanner;

/**
 * @author DHBW lecturer
 * @version 1.0
 *
 * Part of lectures on 'Programming in Java'.
 * Baden-Wuerttemberg Cooperative State University.
 *
 * (C) 2015 by J. Sidler, T. Schlachter, C. Schmitt, W. Süß
 */
public class CrossTotal {

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.print("Bitte Zahl für Quersumme eingeben: ");
        String number = scan.next();
        int total = 0;
        for (char c : number.toCharArray())
            total += (c - '0');
        System.out.println("Die Quersumme von " + number +
                           " ist " + total);
        scan.close();
    }
}
```

Bereich: Strings

Palindrom

Musterlösung

Package: de.dhbwka.java.exercise.strings

Klasse: Palindrome

```
package de.dhbwka.java.exercise.strings;

import java.util.Scanner;

/**
 * @author DHBW lecturer
 * @version 1.0
 *
 * Part of lectures on 'Programming in Java'. Baden-Wuerttemberg
 * Cooperative State University.
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 */
public class Palindrome {

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.print("Bitte Wort eingeben: ");
        String word = scan.nextLine();
        StringBuilder reverse = new StringBuilder(word).reverse(); //
RTFM!
        System.out.println("Umgekehrt: " + reverse);
        System.out.println(word + " ist "
            + (word.equalsIgnoreCase(reverse.toString()) ? "" : "k")
            + "ein Palindrom.");
        scan.close();
    }
}
```

Bereich: Strings

Römische Zahlen

Musterlösung

Package: de.dhbwka.java.exercise.strings

Klasse: RomanNumber

```
package de.dhbwka.java.exercise.strings;

import java.util.Scanner;

/**
 * @author DHBW lecturer
 * @version 1.0
 *
 * Part of lectures on 'Programming in Java'.
 * Baden-Wuerttemberg Cooperative State University.
 *
 * (C) 2015 by J. Sidler, T. Schlachter, C. Schmitt, W. Süß
 */
public class RomanNumber {

    /** Get the decimal value of a Roman digit.
     * 0 is returned for invalid chars.
     * @param c Roman digit (char)
     * @return decimal value of a single Roman digit */
    private static int getValue(char c) {
        switch (Character.toUpperCase(c)) {
            case 'I' : return 1;
            case 'V' : return 5;
            case 'X' : return 10;
            case 'L' : return 50;
            case 'C' : return 100;
            case 'D' : return 500;
            case 'M' : return 1000;
        }
        return 0;
    }

    /** Get the decimal value of a Roman number.
     * The syntax is not checked.
     * @param c Roman number (String)
     * @return decimal value of the Roman number */
    public static int getValue(String s) {
        int result = 0;
        for(int i=0; i<s.length()-1; i++)
            if (getValue(s.charAt(i))<getValue(s.charAt(i+1)))
                result -= getValue(s.charAt(i));
            else
```

```
        result += getValue(s.charAt(i));
    result += getValue(s.charAt(s.length()-1));
    return result;
}

public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    System.out.print("Bitte geben Sie eine röm. Zahl ein: ");
    String rome = scan.nextLine();
    System.out.println("Der Wert der Zahl " + rome + " ist "
        + getValue(rome));
    scan.close();
}
}
```