

# Calculations

loetiker

```
/*
 * Author: Linus Oetiker
 *
 *
 * Dieses Programm liest berechnet die Quersumme für hardcoded ints.
 */
public class Calculations {

    public static void main(String[] args) {
        int num1 = 0;
        int num2 = 123;
        int num3 = -19083;

        int checksum1 = checksum(num1);
        int checksum2 = checksum(num2);
        int checksum3 = checksum(num3);

        System.out.println("checksum (" + num1 + ") returns " + checksum1);
        System.out.println("checksum (" + num2 + ") returns " + checksum2);
        System.out.println("checksum (" + num3 + ") returns " + checksum3);

    }

    public static int checksum(int x) {
        // solved using Recursion
        if (x < 0) { // in case int is lower than 0
            return -1;
        }
        if (x < 10) { // Base case: int is only 1 digit long
            return x;
        } else { // Recursive case: takes out the last digit with modulo
and adds it to the
            // checksum,
            // calls it self and does the same thing with the remaining
numbers
            // until the first number is reached and the recursion stops
because x < 10
            return (x % 10) + (checksum(x / 10));
        }
    }
}
```