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Wintersemester 23/24

Exercises for the Class

Elements of Computer Science: Programming

Live Assignment 1

Submission of solutions for group 1 until 2:00 p.m. and for group 2 until 3:00 p.m.
at `moodle.uni-trier.de`

- Submission that can't be compiled are rated with **0** points!
- Please comment your solutions, otherwise you can lose points!
- If you try to cheat, you will lose your points and the classroom exercise will be over!

Exercise 1 (Evaluation: Numbers) (5 Points)

The given program reads two **`int`** numbers `a` and `b` using the `Scanner` and computes

(a + b) * 2

Change the program, so that it reads a third **`int`** number `c` and change the computation part to the following formula

(a + b) * (b + c)

Example:

```
Input: 1 2 3
Output: 15
```

Exercise 2 (Evaluation: Numbers) (5 Points)

The given program reads two **`int`** numbers `a` and `b` using the `Scanner` and outputs all numbers between `a` and `b`. For example:

```
Input: 1 10
Output: 1 2 3 4 5 6 7 8 9 10
```

Change the program, so that it only outputs the numbers between `a` and `b` but not `a` and `b` itself.

Example:

```
Input: 1 10
Output: 2 3 4 5 6 7 8 9
```

Exercise 3 (Evaluation: Numbers) (10 Points)

The given program takes as input (via `Scanner`) a single **`int`** number `a` (with `a` ≥ 1) and outputs all values between 0 and `a` (inclusive `a`). Change the program, so that it computes the sum between 0 and `a` (inclusive `a`) as shown in the example below.

```
Input: 5
Output: 15
```

Exercise 4 (Evaluation: Numbers) (10 Points)

The given program takes as input (via `Scanner`) a single **`int`** number `a` (with `a` ≥ 1) and outputs all values between 0 and `a` (inclusive `a`). Change the program, so that it takes a second **`int`** number `b` as input and only outputs the numbers between 0 and `a` (inclusive `a`) that are divisible without remainder by `b`.

```
Input: 10 2
Output: 0 2 4 6 8 10
```

Exercise 5 (Evaluation: Numbers) (10 Points)

Use the scanner to scan two **`int`** numbers into the variables (`a` and `b`). Afterwards output:

- the minimum of both values
- the maximum of both values

```
Input: 10 20
Minimum: 10
Maximum: 20
```

Exercise 6 (Evaluation: Numbers) (10 Points)

As before, use the scanner to scan three numbers into the variables a, b and c. Then calculate the product of all numbers as shown in the example below:

```
Input: 2 3 5
Output: 30
```