


# Exercise Sheet 6 for Algorithmen und Datenstrukturen (Sommer 2026)

*Hand In:* Until 2026-05-30 18:00, on ILIAS.

## Problem 1 (Subsequence Sums)

20 points

Solve [marburg.kilonova.ro/problems/7](https://marburg.kilonova.ro/problems/7) (Subsequence Sums) .

## Problem 2


50 points




Derive the correct asymptotic time complexity ( $\Theta$ -class) of the following method. A formal proof is not required, but you need to show your work.

```
f(n):  
    // Input:  $n \geq 0$   
1   for  $i := 1, \dots, n$   
2       print( $i$ )  
3   end for  
4   while  $n > 1$   
5        $n := \lfloor n/2 \rfloor$   
6       f( $n$ )  
7   end while
```

## Problem 3 (Dragon Paths)

40 points

Solve [marburg.kilonova.ro/problems/8](https://marburg.kilonova.ro/problems/8) (Dragon Paths) .

**ILIAS Submission:** In your submission to ILIAS, describe your algorithm according to the template,  *Idea*, `</>` *Pseudocode*,  *Correctness*,  *Analysis*.

The pseudocode part can here an informal summary of your kilonova code submission.