



**Basics of Parallel Computing**  
2024S  
Assignment 2

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## **1 Exercise 1**

**1.1 What do a and t count?**

**1.2 Values for all elements in a and t**

## **2 Exercise 2**

**2.1 Optimal Schedule**

**2.2 Schedule `static,3`**

**2.3 Schedule `dynamic,2`**

## **3 Exercise 3**

**3.1 Fix the problems with this OpenMP code**

## **4 Exercise 4**

**4.1 What is the output of the three different versions?**

**4.2 How often is the function `omp_tasks` called?**

## **5 Exercise 5**

**5.1 Parallelize the pixel computation**

**5.2 Running time analysis**

**5.3 Influence of schedule parameter**

## **6 Exercise 6**

**6.1 Parallelize the filter computation**

**6.2 Strong scaling analysis**

**6.3 Weak scaling analysis**

## **7 Exercise 7**

**7.1 Convert OpenMP code to CUDA**

**7.2 Running time analysis**

**7.3 Impact of block size**

**7.4 Running time: CPU vs GPU code**