

# Programming techniques for physical simulations

## Exercise 5

### **Cache size & Performance**

The aim of this exercise is to determine the number and size of cache levels of your computer. Write a program which adds  $n$  consecutive numbers in memory and time this routine using the `gettimeofday()` function. Since the execution time for one loop and e.g. 1024 Bytes is much too short to be measured with `gettimeofday()`, you have to repeat the loop many times in order to obtain a meaningful result. Visualize the performance by plotting the bytes added per second as a function of  $n$ . Interpret the result!