

Name	Signature	Student Id Nr	Points

## Operating Systems, miniexam 1, 26.1.2015 (6p)

Write your answer on this exam paper in the space given. Please notice, that the exam paper is 2-sided.

a) [2 p] What does the concept “spatial locality” mean and how is it related to cache?

What does the concept “temporal locality” mean and how is it related to cache?

b) [1 p] Assume that main memory access time is 40 ns, cache access time is 2 ns, and cache hit ratio 95%. What is the average time to reference variable X in memory?

c) [2 p] How does the system being multicore affect to the operating system (OS) implementation (when compared to OS of a traditional 1-core system)? Mention at least three things.

d) [1 p] What is a microkernel OS?

What advantage does it have when compared to traditional monolithic OS? What disadvantage?