703078 PS Parallel Programming SS2020
Introduction & Administrative Stuff

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Organizational Stuff

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- Groups 1, 2, 3
  - Wed, 09:15-10:00, RR 15 | 37 students
  - Wed, 10:15-11:00, RR 20 | 30 students
  - Wed, 11:15-12:00, RR 20 | 32 students

- Groups 4, 6
  - Wed, 12:15-13:00, RR 20 | 12 students
  - Wed, 14:15-15:00, RR 20 | 19 students

- Group 5,
  - Wed, 13:15-14:00, RR 20 | 25 students

More Organizational Stuff

▶ **Prerequisites**

- ▶ Interest in parallel programing
- ▶ Programming in C or C++

▶ **Language**

- ▶ German, unless there are non-German speakers?

▶ **Content**

- ▶ General concepts of parallel programming
  - ▶ Concepts apply to many parallel programming models
  - ▶ As an example, we will mainly discuss OpenMP

Grading: Proseminar

▶ Weekly assignments, published on OLAT
  ▸ Might be a link to GitHub
  ▸ 3 points per week

▶ Teamwork is permitted and encouraged
  ▸ 3 people max. per team
  ▸ **Every** team member must be able to present and discuss solution

▶ Solutions have to be handed in until Wed 08:00 starts!
  ▸ Solutions **must work** on the PCs and/or on the LCC2 cluster
  ▸ Copying solutions (e.g. off the Internet) is acceptable **if cited properly**
  ▸ Grade is 50 % solutions, 50 % presentations/discussion – both must be ≥ 50 %!

Literature

- www.internet.com
  - https://www.openmp.org/resources/ (incl. video tutorials)
  - stackoverflow
  - Google
  - …

- Old school: Printed books
  - Let us know and we will look up some references…

What are we all doing here?

▸ **Discuss key concepts of parallel computing**
  ▸ Hardware **and** software aspects
  ▸ Multiple non-functional aspects – there's more than just speed
  ▸ Portability, usability, maintainability, sustainability

▸ **We still need to actually do some concrete work**
  ▸ (Mostly) OpenMP for implementing and evaluating distributed-memory parallelism concepts
  ▸ We'll also use LCC2 for running experiments

Hints (not only) for this Course

▸ choose a suitable source code editor / IDE and choose it wisely!

▸ get acquainted with your toolchain
  ▸ debuggers, version control (git), etc.

▸ use common sense and sanity checks!

Questions?

Image Sources

- LCC2: https://www.uibk.ac.at/zid/systeme/hpc-systeme/lcc/hardware/
- Sandbox: http://www.googblogs.com/open-sourcing-sandboxed-api/