

International Master in Computer Science, 1st Year Parallelism

Written Intermediate Test

Monday, March 14, 2016

Please write clearly. You can write as much as you need, but try not to be verbose. Clearly mark your copy with your name. While developing the following points, try to be critical and to make connections among the concepts presented during the class. You will be graded more for your ability to synthesize and organize the course material originally than for your ability to recall the details. No books, documents, computers, tablets, cellphones, or smartphones are allowed. The grading scheme, on a 0 to 20 scale, is provided for information only.

1. (7 pts) Discuss the relationships between the level of parallelism of a program and the architecture of a parallel machine.
2. (5 pts) Why are Petri Nets a useful tool for describing concurrency?
3. (3 pts) What are *algorithmic skeletons*?
4. (5 pts) Describe the architecture of a general-purpose GPU and how that relates to the CUDA programming model