Parallel and Distributed Computing

Alberto Paoluzzi – Lecture 17 – Multi-Threading

Wed 13-4-2022

Julia High Performance: Threads

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Section 1

Julia High Performance: Chapter 9:

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(Concurrent Programming with) Threads

1. Threads

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Threads: Introduction

In the last chapter, we saw how tasks provide a simple way to run multiple streams of compute, even on a single CPU core, when there is I/O involved.

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5. So, in this chapter, we show how to write multithreaded Julia programs in ways that guarantee both safety and high performance.

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Section 3

Julia High Performance: The `@threads` macro:

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Section 4

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2. With those caveats, however, you can achieve impressive performance gains when using threads with Julia.

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1. Data-race freedom

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7. Caveats

8. Safe use of Finalizers