

CS 5334/4390 Spring 2015
Shirley Moore, Instructor
March 2 In-class Activity

Names _____

Deterministic Parallelism and Futures

1. Describe two basic ideas of deterministic parallelism as discussed in Dr. Jagannathan’s video.
2. Give two invariants for *safe futures*, in terms of the *happens before* relation and data dependencies, that need to be true with respect to a future f and its continuation C_f .
3. From the Java 8 documentation, give the semantics for Java Future in terms of the *happens before* relation.
4. Determine whether Java Futures are safe in two ways:
 - a. Reasoning from the Java documentation
 - b. Modifying the example program in `CallableTask.java` and `CallableClient.java` on the course website.
5. Argue either for or against having Java Futures be safe.