Distributed Systems Edinburgh, 2018

Exercises 1

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These exercise problems are to help you get better understanding of the topics and notations. Some will be discussed in next class. For some, we will give sample solution. Harder problems are marked with (*).

Exercise 0.1. *What are examples in distributed systems where the ordering between events is important, but not their exact time? What are examples where the actual time is important?*

Exercise 0.2. *Show that "concurrent with" relation is not transitive. That is:* $a||b$ *and* $b||c \nRightarrow a||c$.

Let us define a clock C on events E in a distributed system as a map $C : E \rightarrow \mathbb{Z}$, satisfying monotonicity of happened before relation.

Exercise 0.3. *Show that if* $s||t$ *then there is a clock* C *such that* $C(t) < C(s)$.