

Colloquium d'Informatique de l'UPMC Sorbonne Universités

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What is Computation?

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We depend on computer systems that are not dependable. No one knows how to solve this problem, and I don't pretend to. But a better understanding of what those systems do just might help a little. The tool that people have been using for centuries to understand such things is math. I will use very simple math to explain what computation is.

Dr. Lamport's initial research in concurrent algorithms made him well-known as the author of LaTeX, a document formatting system for the ever-diminishing class of people who write formulas instead of drawing pictures. He is also known for writing "A distributed system is one in which the failure of a computer you didn't even know existed can render your own computer unusable." which established him as an expert on distributed systems. Among his other contributions is the TLA+ specification language, which represents a Quixotic attempt to overcome computer scientists' antipathy towards mathematics.

