Colloquium

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Tuesday, September 23rd
1:00 p.m., EN-2022

from Boolean Algebra to Unified Algebra

Abstract:

Boolean algebra is simpler than number algebra, with applications in programming, circuit design, law, specifications, mathematical proof, and reasoning in any domain. So why is number algebra taught in primary school and used routinely by scientists, engineers, economists, and the general public, while boolean algebra is not taught until university, and not routinely used by anyone? A large part of the answer may be in the terminology and symbols used, and in the explanations of boolean algebra found in textbooks. This paper points out some of the problems delaying the acceptance and use of boolean algebra, and suggests some solutions.

This paper was prepared for the 150th anniversary of George Boole's amazing paper that introduced boolean algebra to the world, and published in the Mathematical Intelligencer v.26 n.2 p.3-19, 2004. The mathematical details were published in the International Journal of Mathematical Sciences v.1 n.1 p.20-37, 2007. http://www.cs.utoronto.ca/~hehner/BAUA.pdf