

Gottfried Wilhelm Von Leibniz

Born 1646, Saxony; died 1716, Berlin, Germany; inventor in the late 1600s of the first machine to directly perform all four basic arithmetic operations.



Leibniz was aware of Pascal's calculator, which had the capability of adding and subtracting, like many previous machines, but had the added ability to carry (or borrow) between unit positions. He designed a special cylinder with a set of varying length teeth, such that when rotated, the longitudinal position of the corresponding gear conformed to the multiplicand. Leibniz also studied “universal combinatorics,” which appears to have been the first attempt to symbolize logic. His work was used later by Boole and others in their own developments of symbolic logic. Leibniz also was the first to note that integration and differentiation were complementary.

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Biographical

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UPDATES

Portrait added (MRW, 2013)