In mathematical optimization, **Lemke's algorithm** is a procedure for solving linear complementarity problems, and more generally mixed linear complementarity problems. It is named after Carlton E. Lemke.

Lemke's algorithm is of pivoting or basis-exchange type. Similar algorithms can compute Nash equilibria for two-person matrix and bimatrix games.

References

- Cottle, Richard W.; Pang, Jong-Shi; Stone, Richard E. (1992). *The linear complementarity problem*. Computer Science and Scientific Computing. Boston, MA: Academic Press, Inc. pp. xxiv+762 pp. ISBN 0-12-192350-9. MR 1150683 .
- Murty, K. G. (1988). *Linear complementarity, linear and nonlinear programming* . Sigma Series in Applied Mathematics. **3**. Berlin: Heldermann Verlag. pp. xlviii+629 pp. ISBN 3-88538-403-5. Archived from the original on 2010-04-01. (Available for download at the website of Professor Katta G. Murty .) MR949214

External links

- OMatrix manual on Lemke
- Chris Hecker's GDC presentation on MLCPs and Lemke
- Linear Complementarity and Mathematical (Non-linear) Programming
- Siconos/Numerics open-source GPL implementation in C of Lemke's algorithm and other methods to solve LCPs and MLCPs

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