1003-17-1559   **Ivan Dimitrov*** (`dimitrov@mast.queensu.ca`), Department of Mathematics and Statistics, Queen's University, Jeffery Hall, University Avenue, Kingston, Ontario K7L 3N6, Canada. *Borel subalgebras of $gl(\infty)$*. Preliminary report.

We describe explicitly all maximal locally solvable subalgebras of $gl(\infty)$ and compare their properties with the properties of Borel subalgebras of finite dimensional Lie algebras. In the process we discover new phenomena and apply our description to studying the structure theory of $gl(\infty)$. We discuss also the analogs of highest weight modules for different classes of Borel subalgebras of $gl(\infty)$. (Received October 05, 2004)