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Parabolic subalgebras of \mathfrak{gl}_∞ . Preliminary report.

Parabolic subalgebras \mathfrak{p} of a finite-dimensional Lie algebra \mathfrak{g} correspond to compact homogeneous spaces G/P . They are precisely subalgebras of \mathfrak{g} containing a maximal solvable (i.e. Borel) subalgebra. A parabolic subalgebra of \mathfrak{gl}_∞ is defined to be any subalgebra containing a maximal *locally* solvable subalgebra. Exhausting \mathfrak{gl}_∞ by finite-dimensional \mathfrak{gl}_n and taking nested Borel subalgebras of \mathfrak{gl}_n produces examples of maximal locally solvable subalgebras. I will give a very different example which demonstrates that \mathfrak{sl}_∞ is a parabolic subalgebra of \mathfrak{gl}_∞ . The main theorem is that parabolic subalgebras are the stabilizers of a certain kind of generalized flag in the standard representation, with trace conditions imposed. (Received February 01, 2008)