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Lincoln Dr, Madison, WI 53706. *The degenerate two-boundary Hecke algebra*. Preliminary report.

We study algebras similar to the group algebra of the symmetric group, the Brauer algebras, and the graded Hecke algebra of type A. In particular, we investigate algebras of operators which commute with the action of \mathfrak{sl}_n and \mathfrak{gl}_n on tensor space of the form $M \otimes N \otimes L(\omega_1)^{\otimes k}$. We use combinatorial techniques to explore the structure and representation theory of these algebras, concentrating on cases where M and N are finite dimensional modules indexed by rectangular partitions. These examples yield beautiful structure and mimic that of type C objects. (Received February 15, 2010)