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partitions*. Preliminary report.

The representation theory of the symmetric group gives an algebraic interpretation of the Hopf algebra of symmetric functions and its integer partition combinatorics. Similarly, supercharacters of the finite groups unipotent uppertriangular matrices give a representation theoretic foundation for the Hopf algebra of symmetric functions in noncommuting variables with its set partition combinatorics. However, in the process of working with these supercharacters, it quickly becomes clear that the category of Hopf monoids is an even more natural setting for this theory. This talk will introduce the Hopf monoid of supercharacters, and give some generalizations to other similar representation theoretic monoids. (Received June 24, 2011)