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Syracuse, NY 13244. *Preprojective Quiver of a Coxeter Group*. Preliminary report.

Certain results on representations of quivers have analogs in the structure theory of general Coxeter groups. A fixed Coxeter element c turns the Coxeter graph into an acyclic quiver, the c -quiver. A positive root is c -preprojective if a positive power of c takes it to a negative root. A Coxeter group is finite if and only if every positive root is c -preprojective. The graded c -preprojective quiver is an enlargement of the c -quiver. The construction is analogous to, but different from, that of the graded preprojective algebra of a general quiver. The c -preprojective roots are explicitly described in terms of the graded paths in the c -preprojective quiver. (Received February 17, 2018)