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How to distinguish knots has been a subject of intense interest for many years. One approach is through invariants. Classical invariants are scalars or polynomials which do not depend on permissible topological moves to knots. There is an algorithm known as "bead sliding" for constructing knot invariants from some types of algebras and Hopf algebras. We will describe the algorithm, relate algebra and topology, and give some examples. (Received September 19, 2010)