
BRENDA JOHNSON, Union College

Functor Precalculus

Functor calculi have been developed in a variety of forms and contexts in algebra and topology. Each of these calculi comes equipped with its own definition of polynomial or degree n functor. Such definitions are often formulated in terms of the behavior of the functor on certain types of cubical diagrams. Using the discrete calculus developed with Kristine Bauer and Randy McCarthy as a starting point, we identify a category-theoretic framework, which we call a precalculus, that provides a means by which notions of degree for functors can be defined via cubical diagrams. We show how such precalculi might be used to produce functor calculi. This is work in progress with Kathryn Hess.