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Mealy morphisms of enriched categories

The realization by Walters that enriched categories can be viewed as lax morphisms from an indiscrete category to a bicategory with one object has led to a new kind of morphism of enriched category, intermediate between strong functor and profunctor. We call these Mealy morphisms. They are a two-fold generalization of Mealy machines introduced in the 1950s in theoretical computer science. We will introduce the notion and examine some of its properties and give examples.