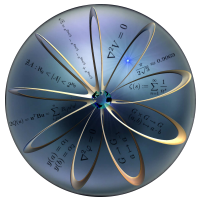

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categorical diagrams as functors

Canonical name	CategoricalDiagramsAsFunctors
Date of creation	2013-03-22 18:16:44
Last modified on	2013-03-22 18:16:44
Owner	bci1 (20947)
Last modified by	bci1 (20947)
Numerical id	23
Author	bci1 (20947)
Entry type	Feature
Classification	msc 18E05
Classification	msc 18D35
Classification	msc 18-00
Synonym	diagrams as functors
Related topic	Category
Related topic	CommutativeDiagram
Related topic	SuperdiagramsAsHeterofunctors
Related topic	AbelianCategory
Related topic	CategoricalSequence
Related topic	ExactSequence
Related topic	ExactFunctor
Related topic	CategoryTheory
Defines	diagram as a functor

0.1 Introduction: categorical diagrams defined by functors

Any *categorical diagram* can be defined *via* a corresponding functor (associated with a diagram as shown by Mitchell, 1965, in ref. [**?**]). Such functors associated with diagrams are very useful in the categorical theory of representations as in the case of `http://planetmath.org/CategoricalAlge` algebra. As a particularly useful example in (commutative) homological algebra let us consider the case of an exact categorical sequence that has a correspondingly defined *exact functor* introduced for example in Abelian category theory.

0.2 Examples

Consider a scheme Σ as defined in ref. [**?**]. Then one has the following short list of important examples of diagrams and functors:

1. Diagrams of adjoint situations: Adjoint functors
2. Equivalence of categories
3. Natural equivalence diagrams
4. Diagrams of natural transformations
5. Category of diagrams and 2-functors
6. Monad on a category

References

[1] Barry Mitchell., *Theory of Categories.*, Academic Press: New York and London (1965), pp.65-70.