

Category Theory

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Part I

Chapter 1

duality morphisms monic

1.1 Functors

full, faithful natural transformations and equivalence 2-category representability and yoneda

Chapter 2

2.1 Universal properties

products, equalizers, pullbacks

2.2 Limits

preservation, reflection, creation completeness functoriality

Chapter 3

3.1 Adjunctions

3.2 Monads

3.3 Kan extensions

Chapter 4

Monoidal categories

closed, symmetric, cartesian coherence theorem, closure theorem

4.1 enriched categories

Chapter 5

Abelian categories

5.1 Regular and exact categories

5.2 Additive categories

zeros, enrichment Freyd-Mitchell embedding

Chapter 6

site, topos