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Notation

C an arbitrary category, 1
 C^{op} opposite of category C , 32
 \widehat{C} presheaves on a category, 96
 C^{\downarrow} arrow category from C , 19
 C^{∇} category of ∇ -diagrams from C , 115
 $(C \downarrow S)$ slice category over S , 20
 $(S \downarrow C)$ slice category under S , 20
 $(U \downarrow L)$ comma category, 86
 $C[A, B]$ hom-set from A to B
 in category C , 4
 $[A, B]$ hom-set from A to B , 4
 $\text{Hom}_C[A, B]$ hom-set from A to B
 in category C , 5
 Arw the arrows of a category, 1
 Obj the objects of a category, 1
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target of an arrow, 2
 $- \circ -$ composition of arrows, 3
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 id_A identity arrow on A , 3
 1_A identity arrow on A , 3
 Src source category of a functor, 73
 Trg target category of a functor, 73
 Δ diagonal functor, 78
 ∇ as a template, 108, 113
 (\mathbb{I}, \mathbb{E}) a template, 112
 \mathbb{I} nodes of a template, 112
 \mathbb{E} edges of a template, 112
 (Bij) a property on an adjunction, 164
 (Nat) a property on an adjunction, 164
 $- \dashv -$ adjunction
 between categories, 149
 between posets, 17
 $f[\cdot]$ direct image across f , 80

$f^{\leftarrow}(\cdot)$ inverse image across f , 80
 \mathcal{LS} poset of lower sections of a poset S , 152, 194
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 \exists an endo-functor
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 \forall an endo-functor
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Particular categories

$AGrp$ abelian groups, 28
 $Ch(Mod-R)$ chain complexes over R , 28
 $CMon$ commutative monoids, 141
 Eqv equivalence relations, 137
 Fld fields and morphisms, 47
 Grp groups and morphisms, 8
 Idm integral domains and morphisms, 47
 Inf complete posets and \wedge -morphisms, 192
 Inv involution algebras, 154, 204
 $Mod-R$ right R -modules and morphisms, 13
 MON monoid set categories and functors, 88
 Mon monoids and morphisms, 9
 Pfn sets and partial functions, 11
 Pno peano structures, 14
 Pos posets and monotone maps, 10
 Pos^{\downarrow} posets and poset adjunctions, 17
 Pos^{pp} posets and projection pairs, 24
 Pre presets and monotone maps, 10
 $Pth(\nabla)$ path category of a graph, 113

RelA sets and relations as arrows, 16
R-Mod left R -modules and morphisms, 13
Rng rings and morphism, 8
R-Set left R -monoid sets and morphisms, 13
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