intro to category theory

notes

compile into beamer slide

motivational examples

- diagrams are diagrams and commutative diagrams
– isomorphism theorems for groups
- Cayley representation theorem for groups and concrete categories
- dual spaces and hom-functors
- G-sets and G-equivariant maps
- unital rings are monoids over abelian groups
- p-adic integers (?)
- tensor-hom adjunctions
- direct-image – inverse-image adjunction
- monoidal categories, cartesian closed categories and logic
- Haskell and the Hask category
- monads and algebras
- topoi
- homotopy hypothesis
- univalence axiom
- linguistic word2vec analysis
- counting idempotent endofunctions
- topos where the reals are countable

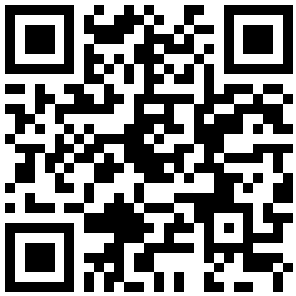

Figure 1: Link to METUCaT

references

- ncatlab
- Applied Category Theory conference
- Adjoint school
- the n-category café
- topos institute