

Schor Functors

We have indicated that Schor functors are some kind of "categorized polynomials".

Polynomials in x w. integer coefficients

Free comm. ring on one generator x

Universal property of object
in the category Comm Ring.

Free monoid on
on one generator x

\mathbb{N}

Free comm monoid
on one generator x

\mathbb{N}

Free ring
on one generator x

$\mathbb{Z}[x]$

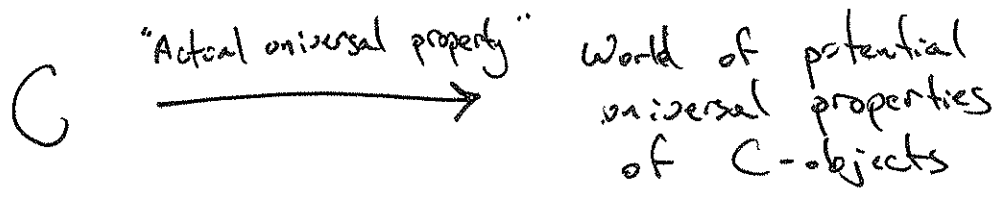
Free commutative
ring on one generator x

$\mathbb{Z}[x]$

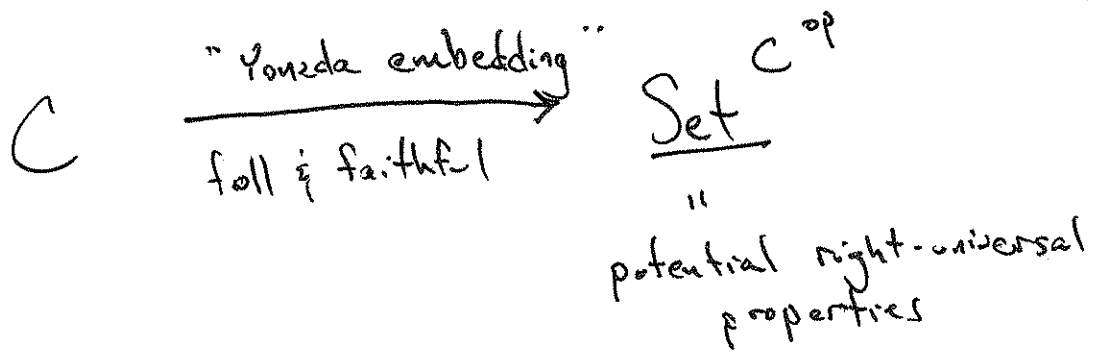
"Universal property"

way of defining (or characterizing, up to isomorphism) an object in a given category, by describing how to map out of (or alternatively into) the object.

Every object has a universal property



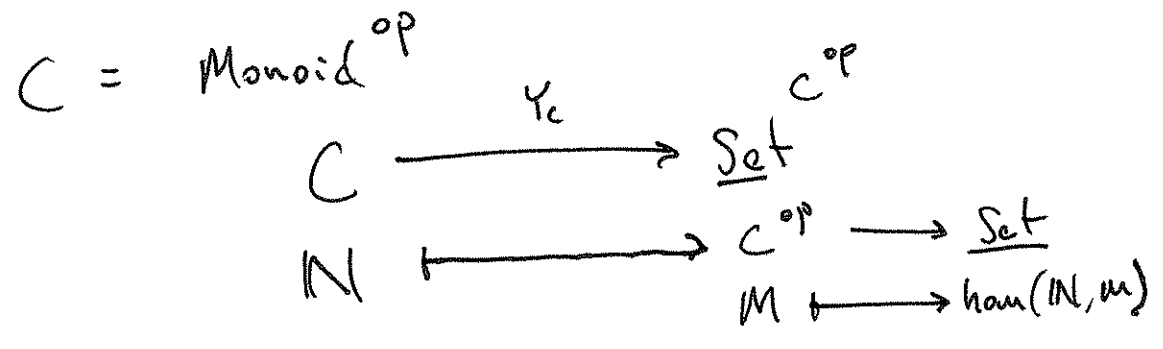
Or really:



We are talking about left universal properties.



"
 $v(M)$ we only care about what happens to the one generator



"Functional calculus"

class of "nice" functions

class of "nice" operators

"Apply a nice function to a nice operator to get another nice operator."

Monoid = set with "multiplication"

Monoidal category = category with "tensor product"

Universal problems:

Free monoidal cat on one object X

Free braided monoidal cat on one object

Free monoidal cat with colimits on one object X.

"with addition"