

Kategorije

Objekte + morfizmi] kategorija $\mathcal{C}$

$$\mathcal{C} \xrightarrow{F} \mathcal{D}$$

$$\begin{array}{ccc} \text{Haskell} & \xrightarrow{\text{List}} & \text{Haskell} \\ a & \mapsto & [a] \end{array}$$

$$(f: a \rightarrow b) \mapsto \text{map } f: [a] \rightarrow [b]$$

Maybe

$$a \xrightarrow{\downarrow} \boxed{\text{Maybe } a} \quad \text{Nothing} \mid \text{Just } a$$

$$(f: a \rightarrow b) \xrightarrow{\quad} \text{Maybe } a \rightarrow \text{Maybe } b$$

$$\text{Nothing} \mapsto \text{Nothing}$$

$$\text{Just } x \mapsto \text{Just}(f x)$$

a, b $\uparrow$	$\xrightarrow{\quad}$	$a \rightarrow b$	$X \xrightarrow{\quad} X^N$ prostar R
b	$\xrightarrow{\quad}$	$r \rightarrow b$ $\mathbb{N}$	

$$F(b) = r \rightarrow b$$

$$\text{h'ave } r$$

Izbraun tip r .

$$F(b) = r \rightarrow b$$

$$\begin{array}{ccc}
 (g: b \rightarrow c) & \xrightarrow{\text{funap}} & F(b) \rightarrow F(c) \\
 & & (r \rightarrow b) \rightarrow (r \rightarrow c) \\
 & & \underbrace{\hspace{10em}} \\
 g & \xrightarrow{\hspace{1em}} & \lambda h_{r \rightarrow b} \rightarrow \lambda x_r. g(\underbrace{hx}_{b}) \\
 b \rightarrow c & & g \cdot h
 \end{array}$$