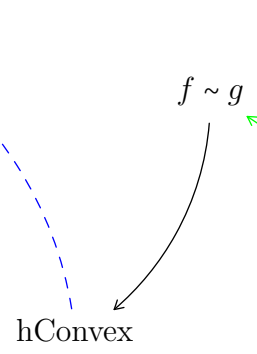
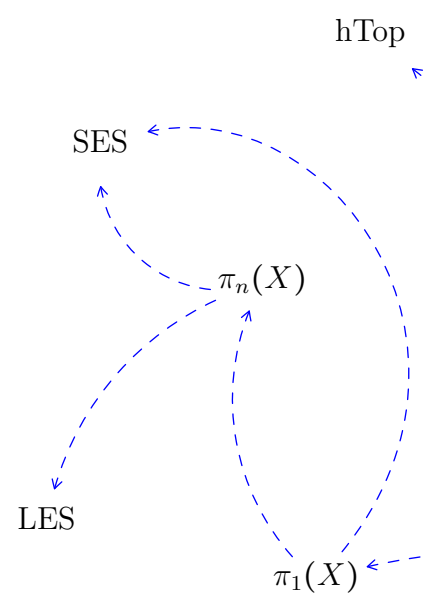
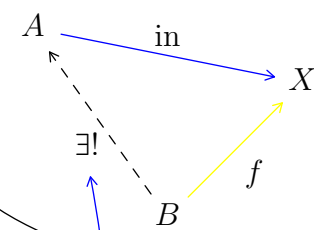


# HOMOTOPY



$\text{Hom}_{\text{Convex}}(\mathbb{I} \times X, Y)$

$X \times Y$

Convex

$\dim P$

$\dim X$

Betweenness

0 - Lin

1 - Lin

2 - Lin

...

$\text{Aut}_{\text{Convex}}(X)$

$\text{Hom}_{\text{Convex}}(X, Y)$

FreePolytopes

$X \sqcup Y$

$X/Y$

# ORDER



- solid line  $\longleftrightarrow$  defined concept
- dashed line  $\longleftrightarrow$  undefined concept
- color  $\longleftrightarrow$  important/key
- color  $\longleftrightarrow$  interesting/relevant
- color  $\longleftrightarrow$  difficult/troubling
- color  $\longleftrightarrow$  known/given

Hausdorf

Top

Compact

Regular

$T_1$

$T_0$

Manifold

# TOPOLOGY

$\dim(X \times Y) = \max(\dim X, \dim Y)$

# ANALYSIS

Smooth + Convex

Smooth

Measure

$L^p(X)$

$L^\infty(X)$

Uniform

$C^k(X, Y)$

$C^k(\mathbb{R}, \mathbb{R})$