Systems and Formalisms Lab

EPFL

Diagrammatic notations: a wishlist

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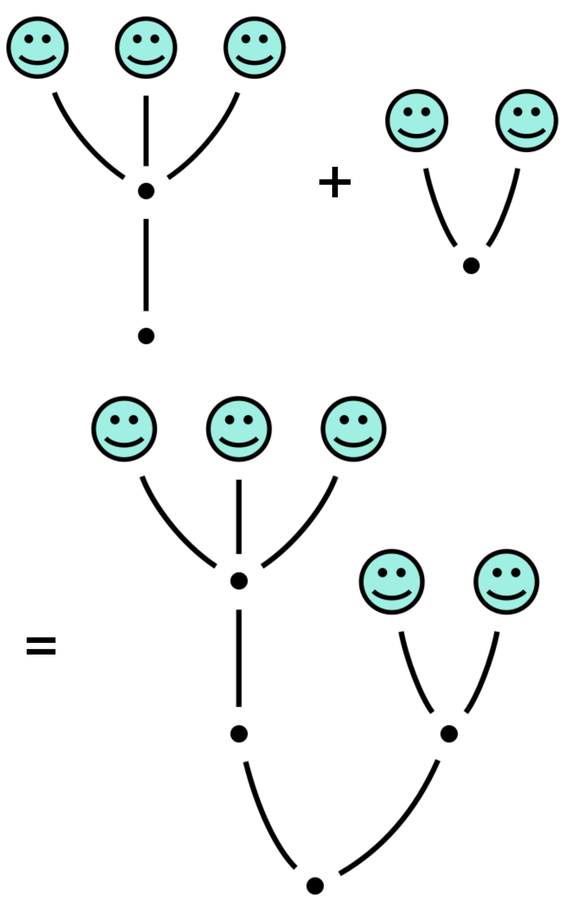
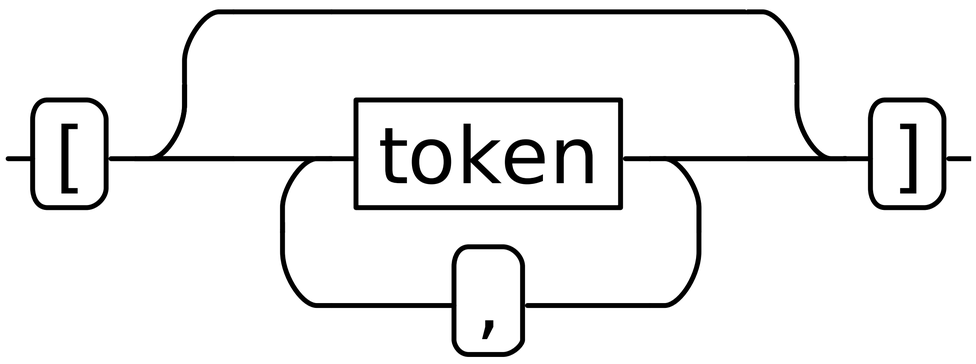
Structural composition

```
Inductive Hydra: Set :=
| node: Hydrae -> Hydra
with Hydrae: Set :=
| hnil: Hydrae
| hcons: Hydra ->
    Hydrae -> Hydrae.

Definition left_hyd […]
Definition right_hyd […]

Definition whole_hyd :=
  (node
    (hcons left_hyd
    (hcons right_hyd
    hnil)).
```

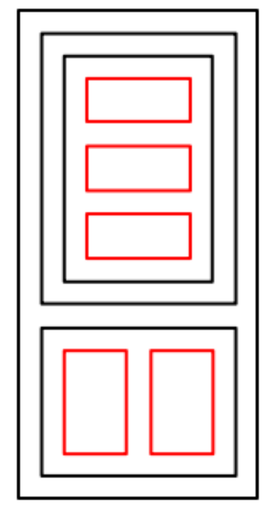


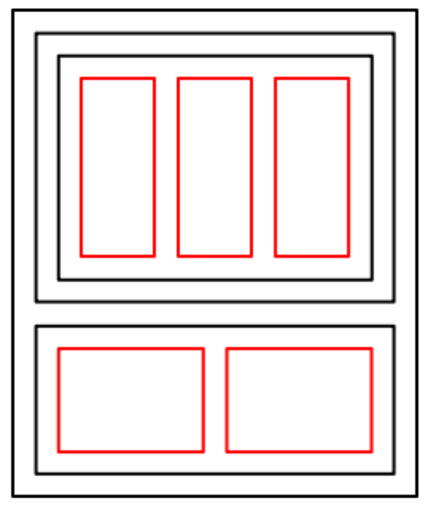
Cost-benefit balance

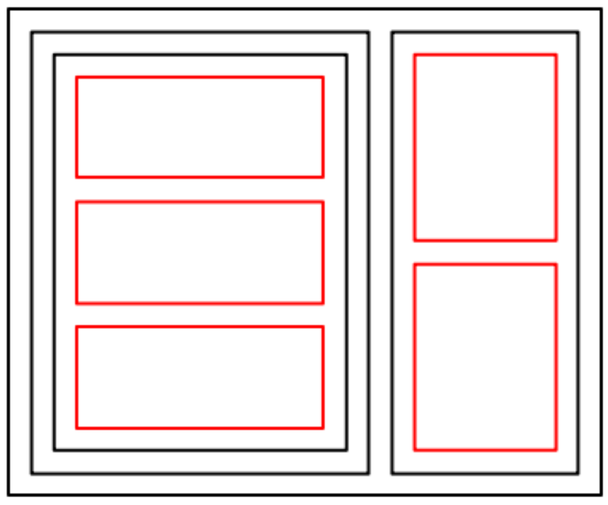
```
(draw-rrd
  ("["
   (+ epsilon
      (mu "[token]"
          (+ epsilon ("," rec))))
   "]"))
```



Good-looking idioms



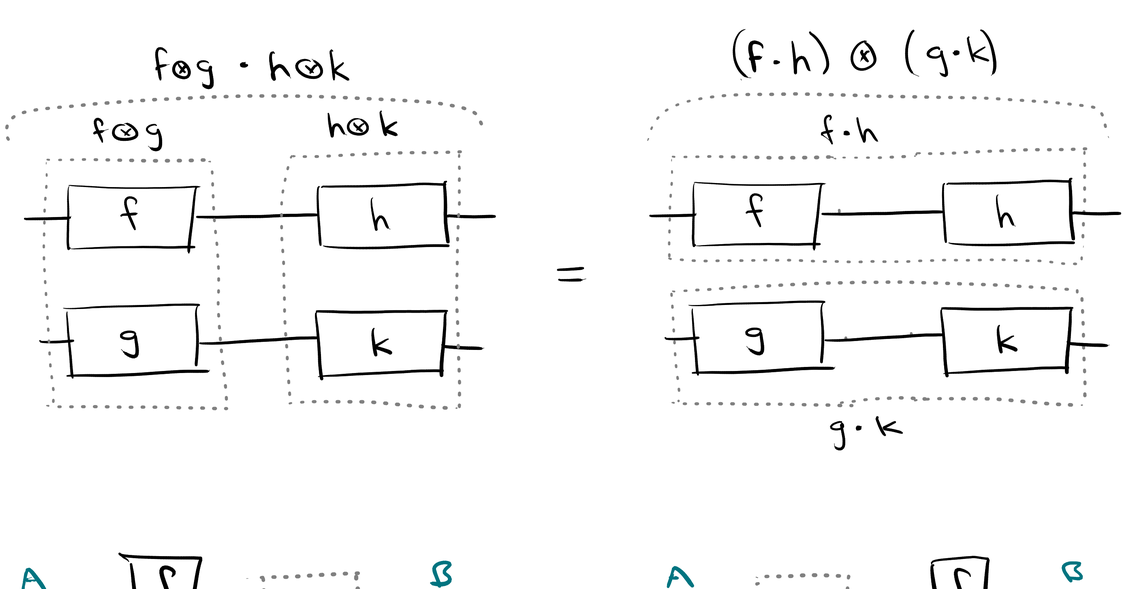




Canonicity

$$(f \otimes g) \cdot (h \otimes k) = (f \cdot h) \otimes (g \cdot k)$$

$$f \otimes id_C \cdot id_B \otimes g = id_A \otimes g \cdot f \otimes id_D$$



Continuity

```
(sep (MCell f2 d1 c2) (sep (MCell p1
f1 b2) (sep (MCell p2 f2 b2) (sep
(MCell b1 x null c2) (sep (MListSeg c2
b2 L2') (sep (MCell b2 d2 null)
(MListSeg f1 b1 L1))))))))
```