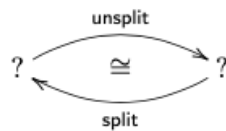


7. Complete os “?” do diagrama



onde

$$\text{split } (f, g) = \langle f, g \rangle$$

$$\text{unsplit } k = (\pi_1 \cdot k, \pi_2 \cdot k)$$

```
In [1]: -- loading Cp.hs

:load ../src/Cp.hs
```

Haskell

```
In [2]: split' (f,g) = split f g

-- type checking

:t split'
```

split' :: forall a b c. (a -> b, a -> c) -> a -> (b, c)

```
In [3]: unsplit' k = (p1 . k, p2 . k)

-- type checking

:t unsplit'
```

unsplit' :: forall a1 a2 c. (a1 -> (a2, c)) -> (a1 -> a2, a1 -> c)

Resolução

$$B^A \times C^A \xrightarrow{\text{split}} (B \times C)^A$$

$$(B \times C)^A \xrightarrow{\text{unsplit}} B^A \times C^A$$

```
In [4]: -- testing with length and reverse over a string

split' (length,reverse) "cp2021"

p1 (unsplit' (split length reverse)) "luis"

p2 (unsplit' (split length reverse)) "luis"

(6,"1202pc")
4
"siul"
```