BITCOIN

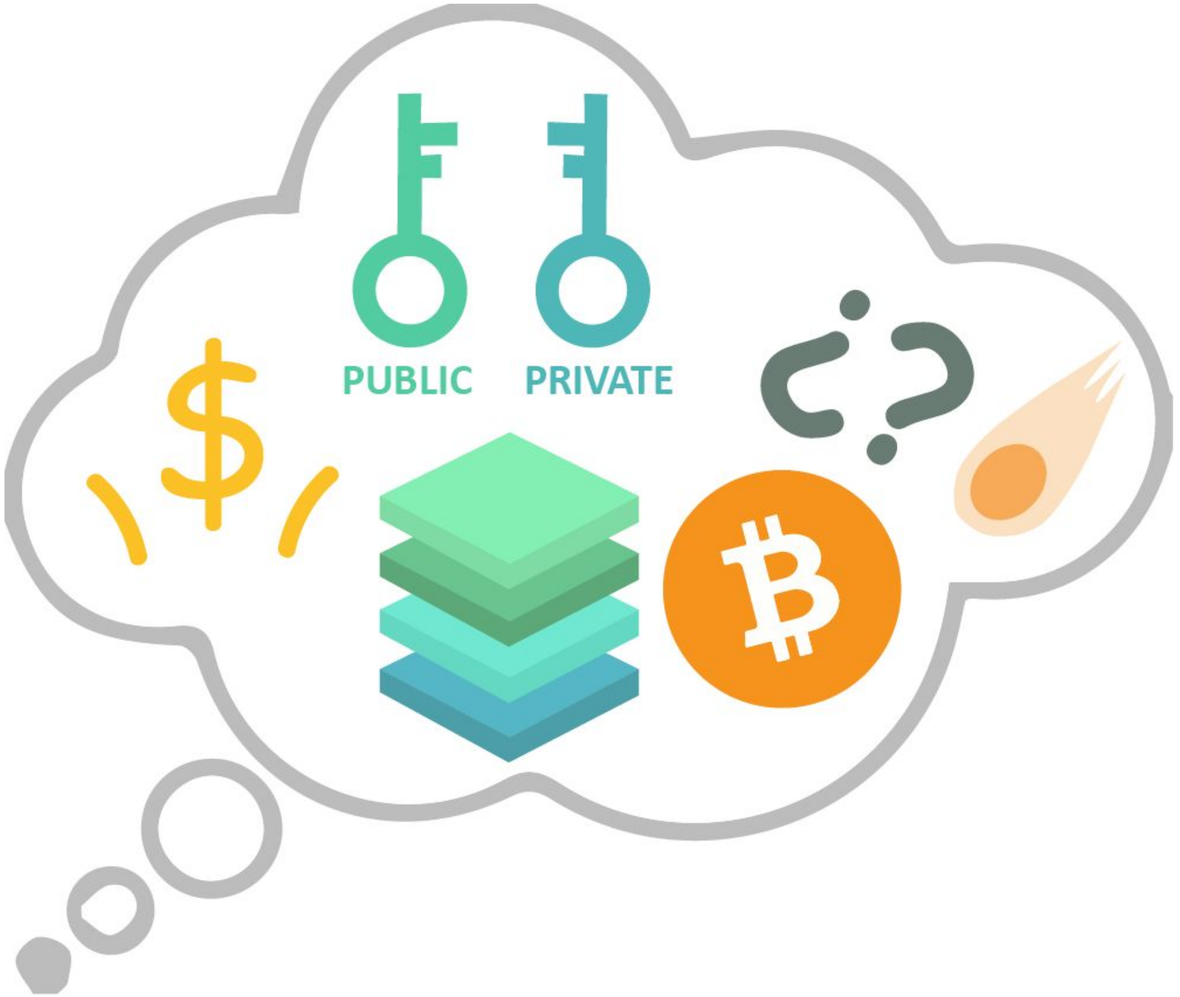
EL CAMINO DE UNA TRANSACCIÓN

Hola!

Soy **Miguel Duarte**

Menú de hoy...

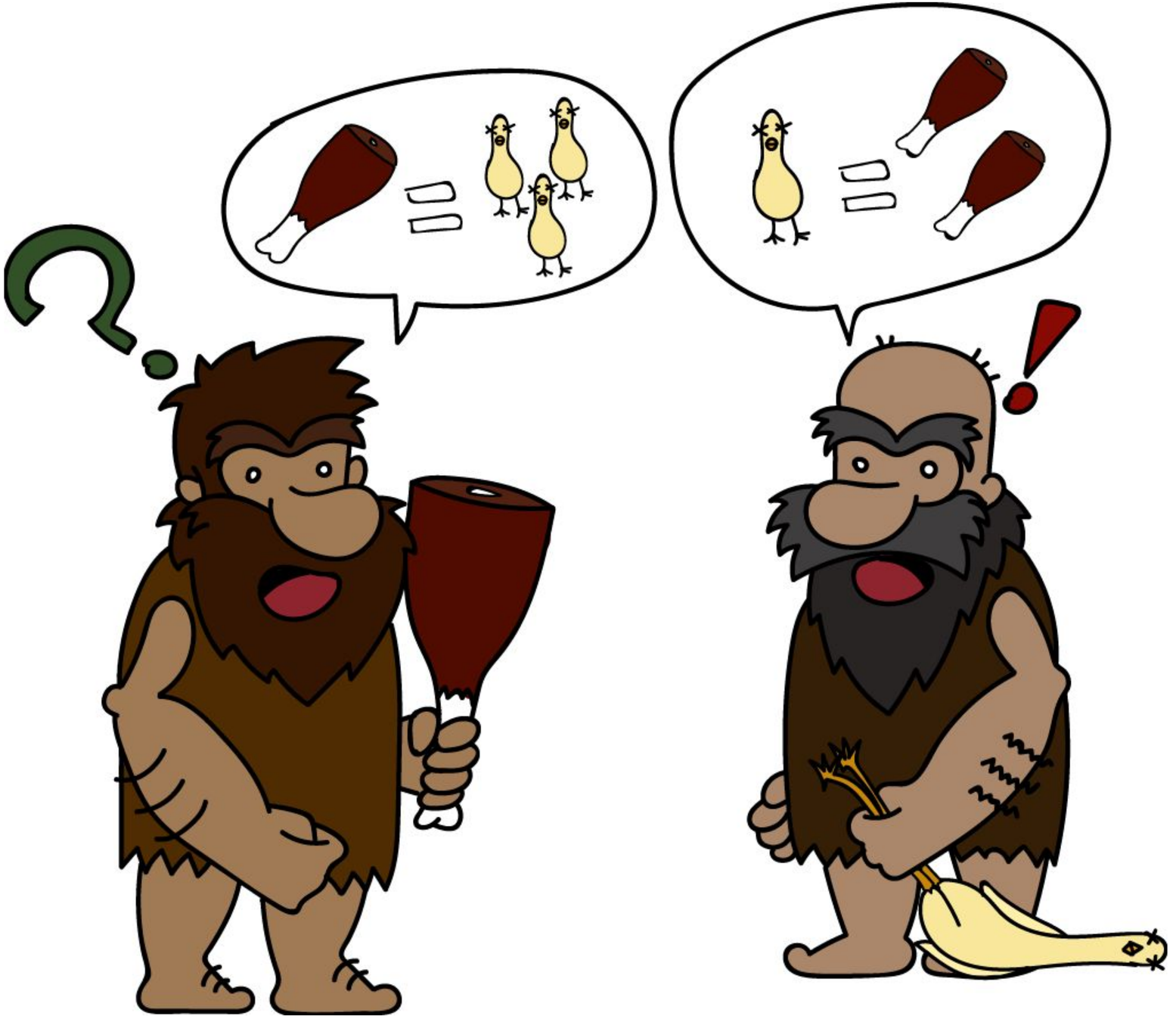
- Intro: ¿Que es una moneda?
  ¿Por qué queremos criptomonedas?
- Transacciones: ¿Que es una transacción en bitcoin?
  ¿Como funciona? ¿Como se hace? ¿Con que se come?
- Consenso en un sistema monetario distribuido: Proof of work.
- Algunas variantes a bitcoin.
- Pequeña sorpresa...
- Preguntas



INTRODUCCIÓN

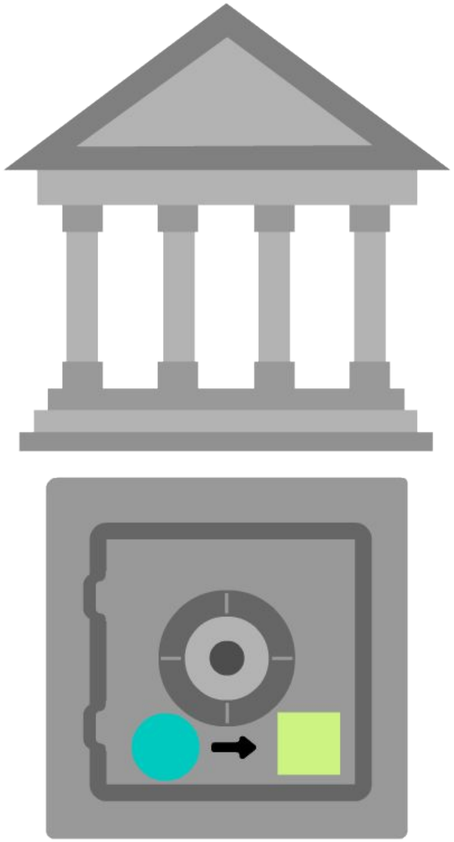
¿Que problema resuelve bitcoin?

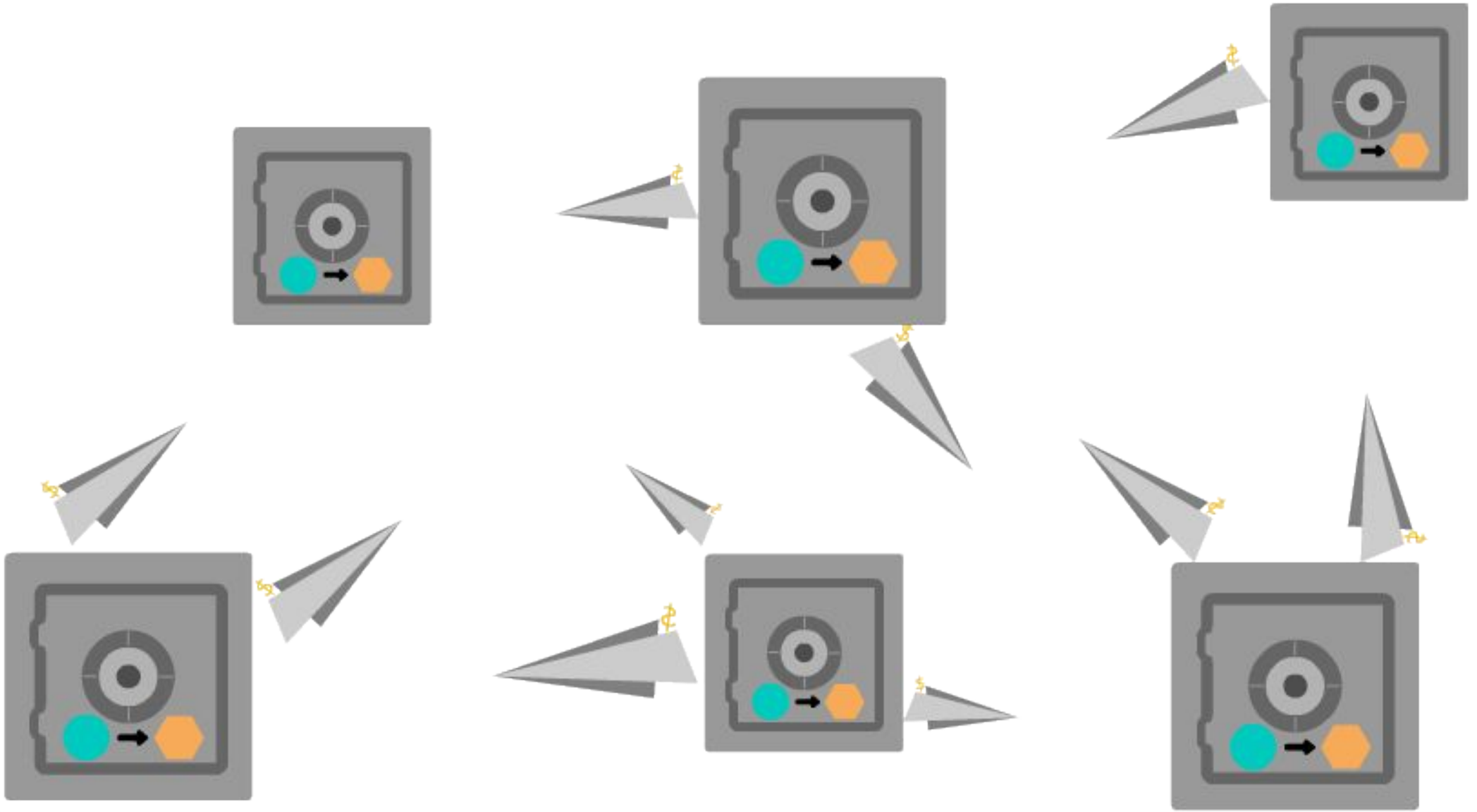
¿Qué es una moneda?

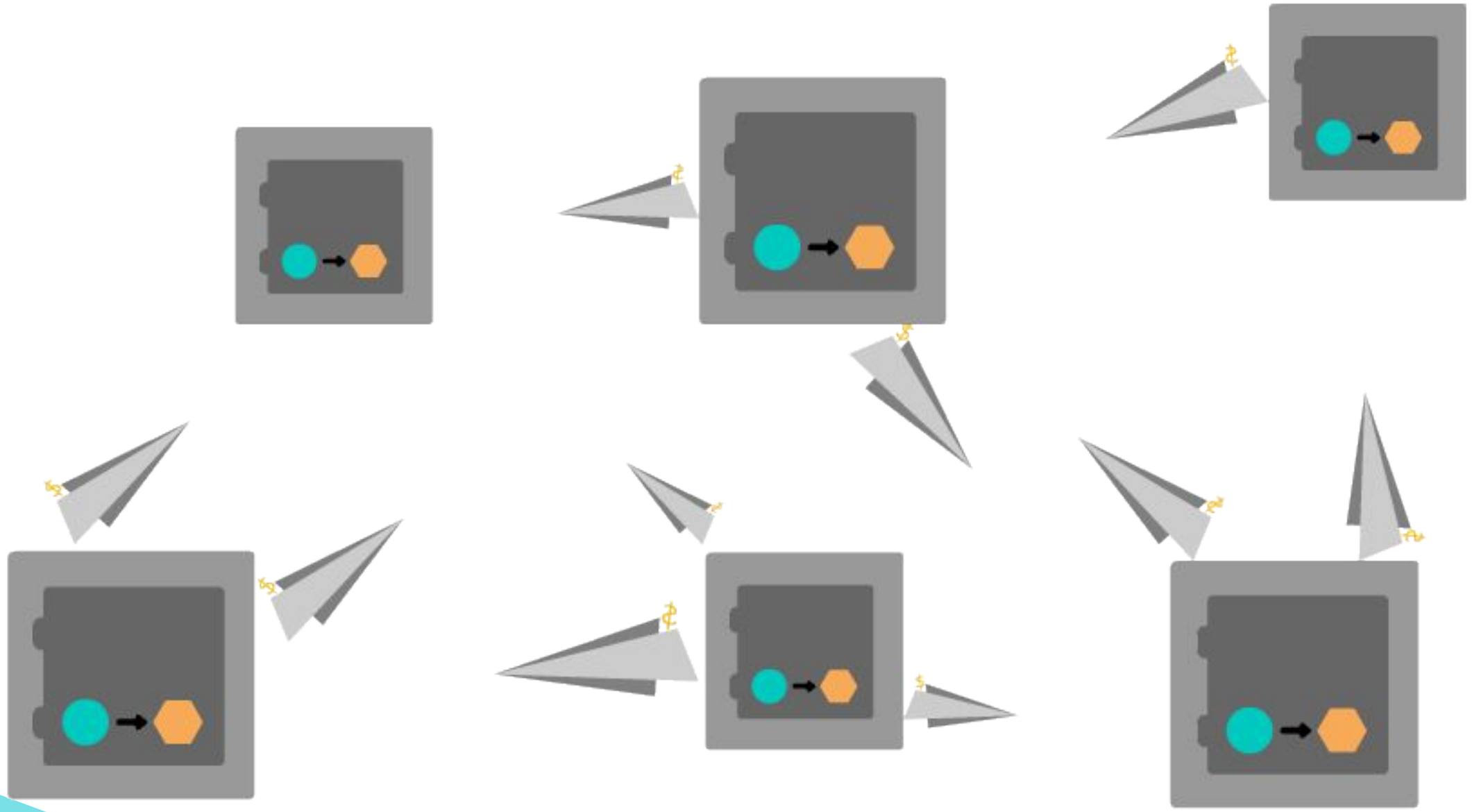


¿Qué es una moneda?

- **Escasez y fungibilidad** (se gasta)
- **Confianza** (segura, durable)
- **Convención**





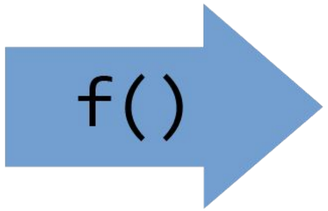


Conceptos Importantes

- Hash
- Clave Pública, Clave Privada

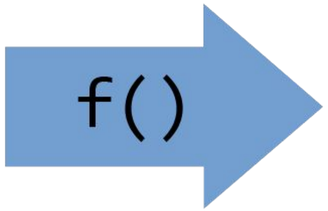
Hash

```
11111111111111111111
11111111111111111111
11111111111111111111
```




```
9117d54bb326c862cb587f86aebfafb2
```

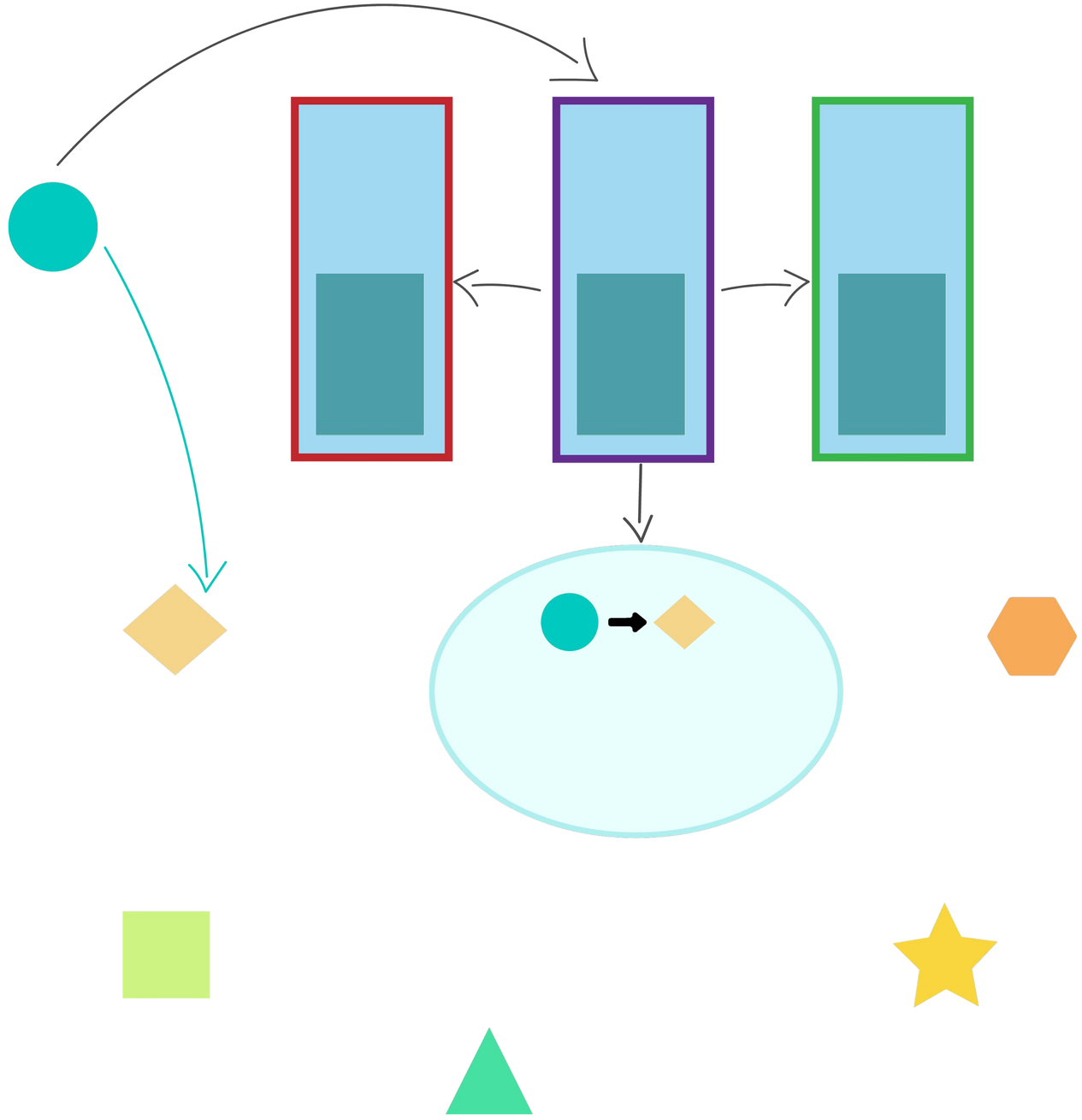
```
11111111111111111111
11111111110111111111
11111111111111111111
```

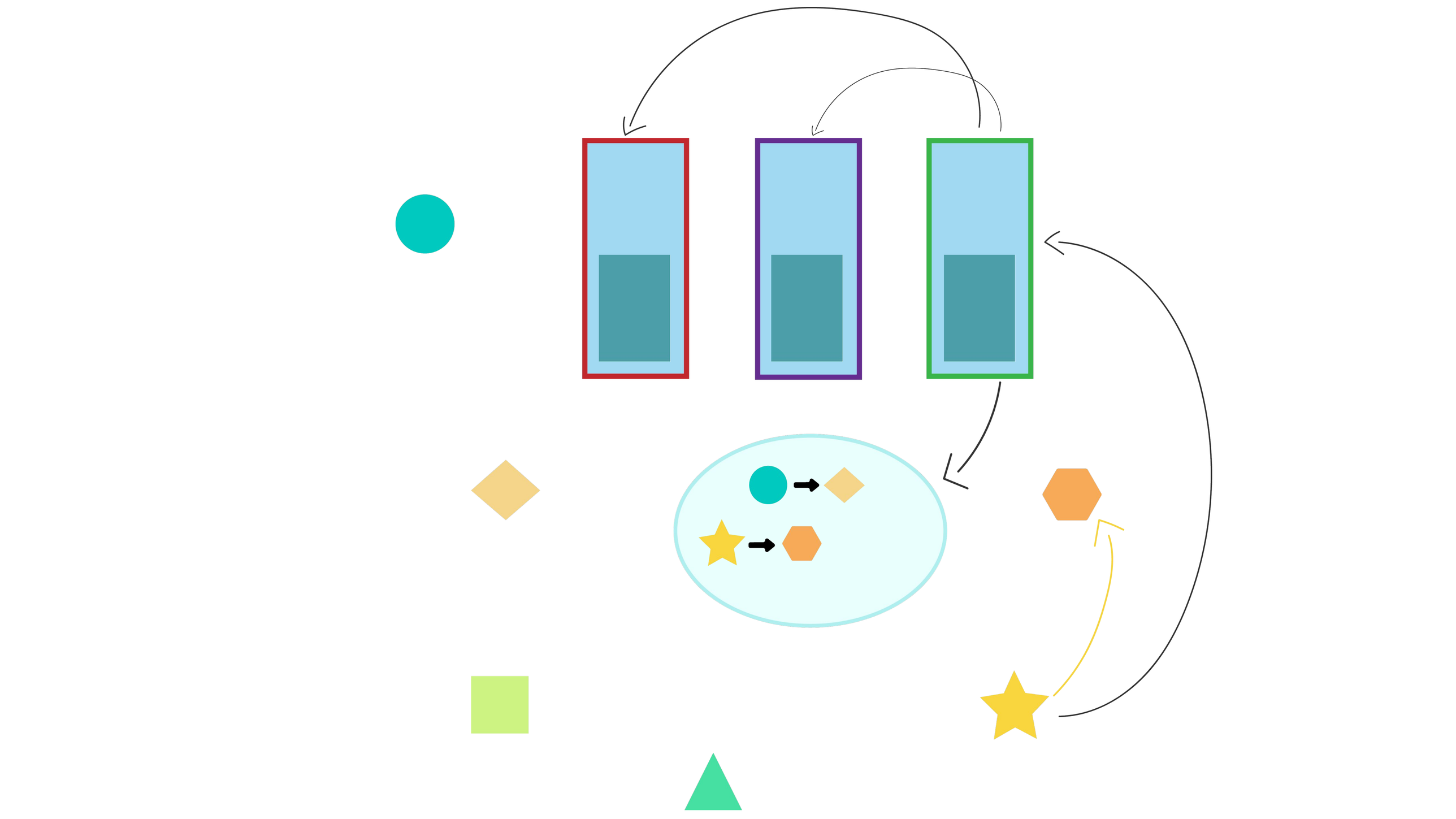


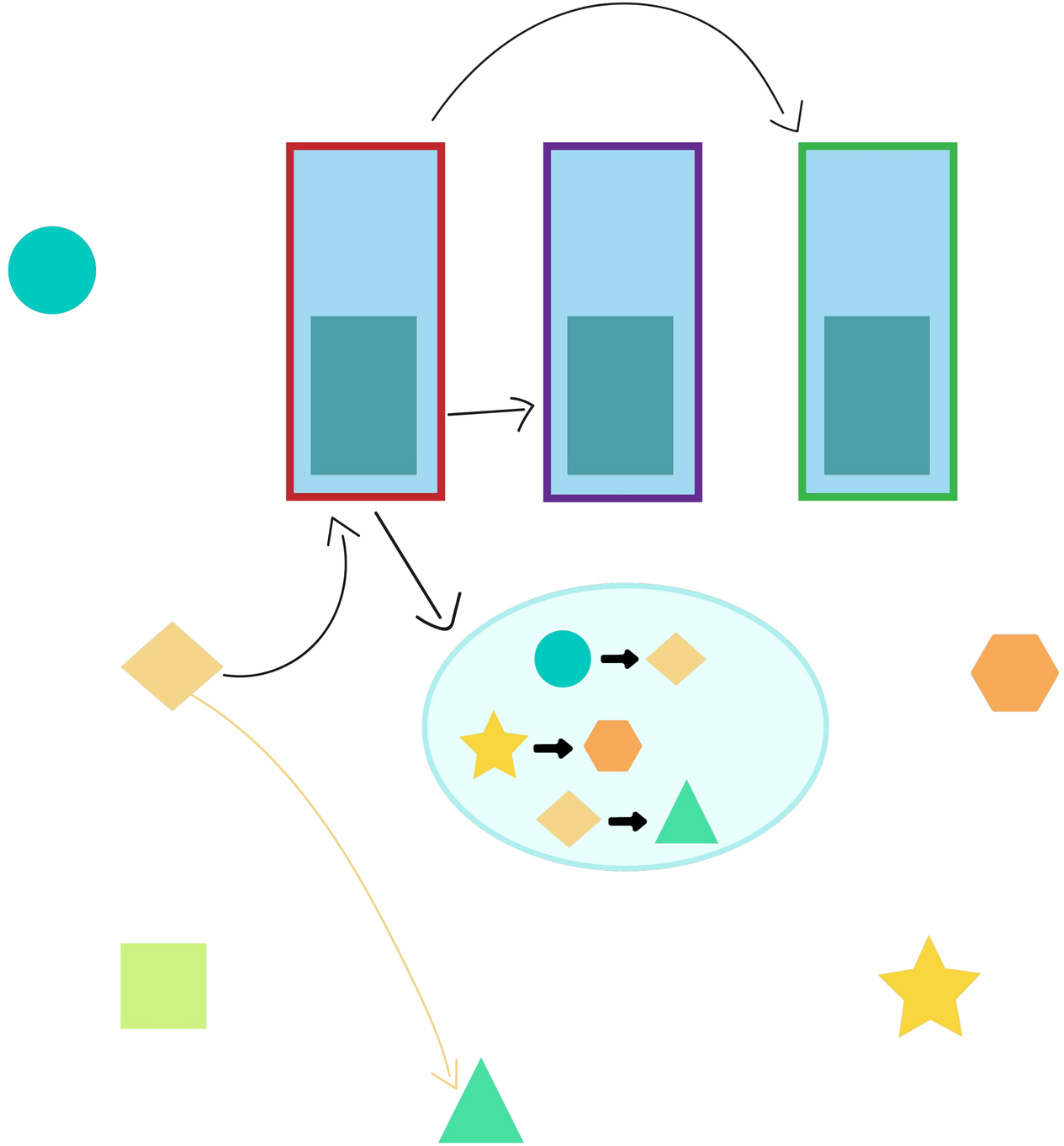

```
af249af06aff4b9a919ee57a6526abe0
```

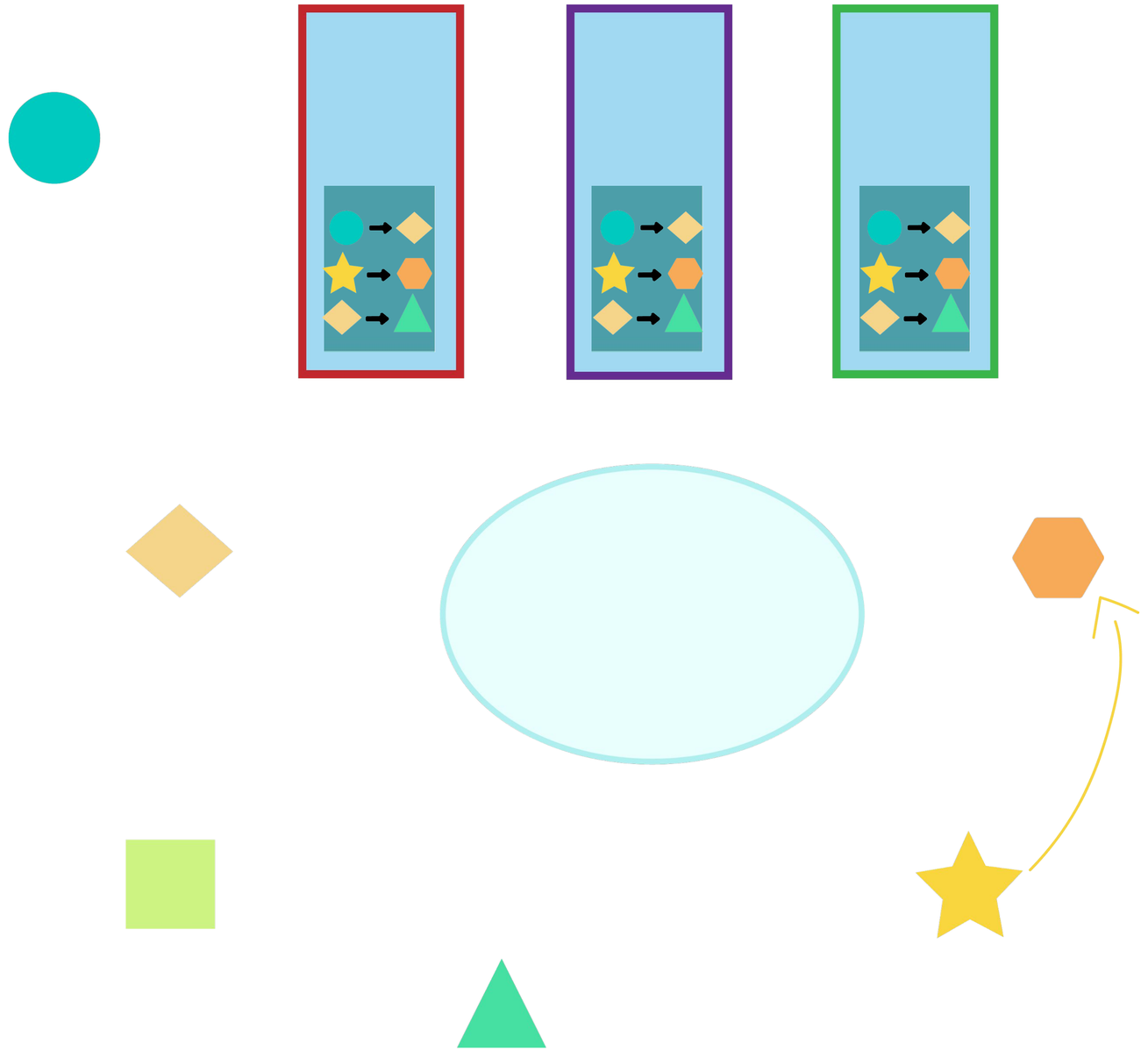

INTERNET
SENDER ENCRYPTS
RECEIVIER DECRYPTS
PUBLIC
PRIVATE

La red Bitcoin



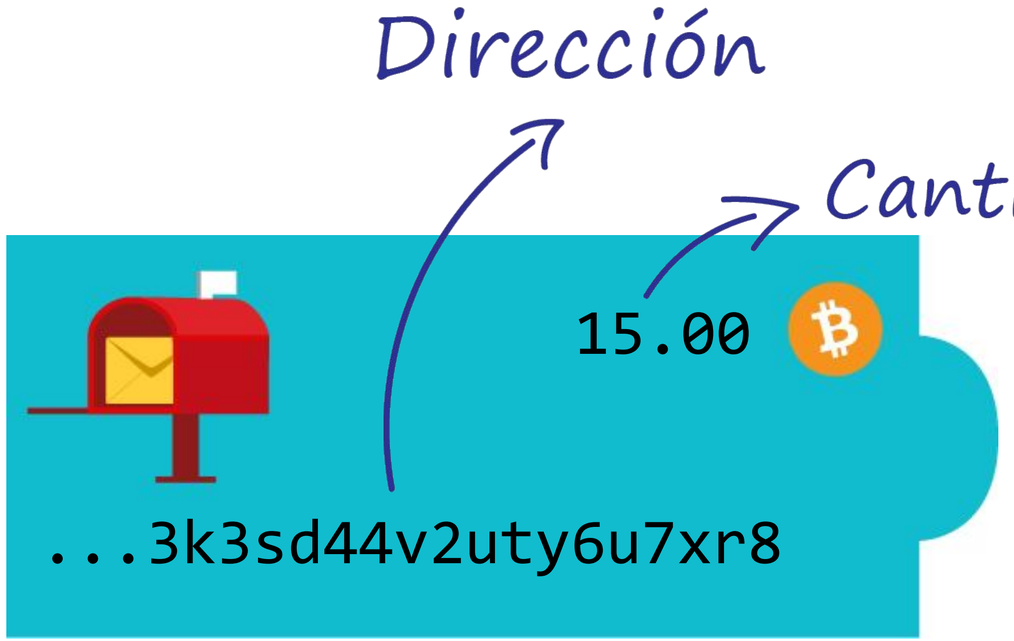


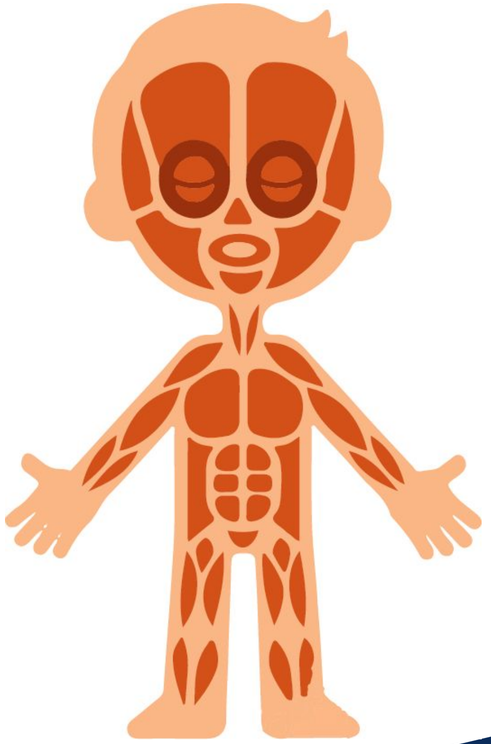




Transacciones:
Interactuando con la red

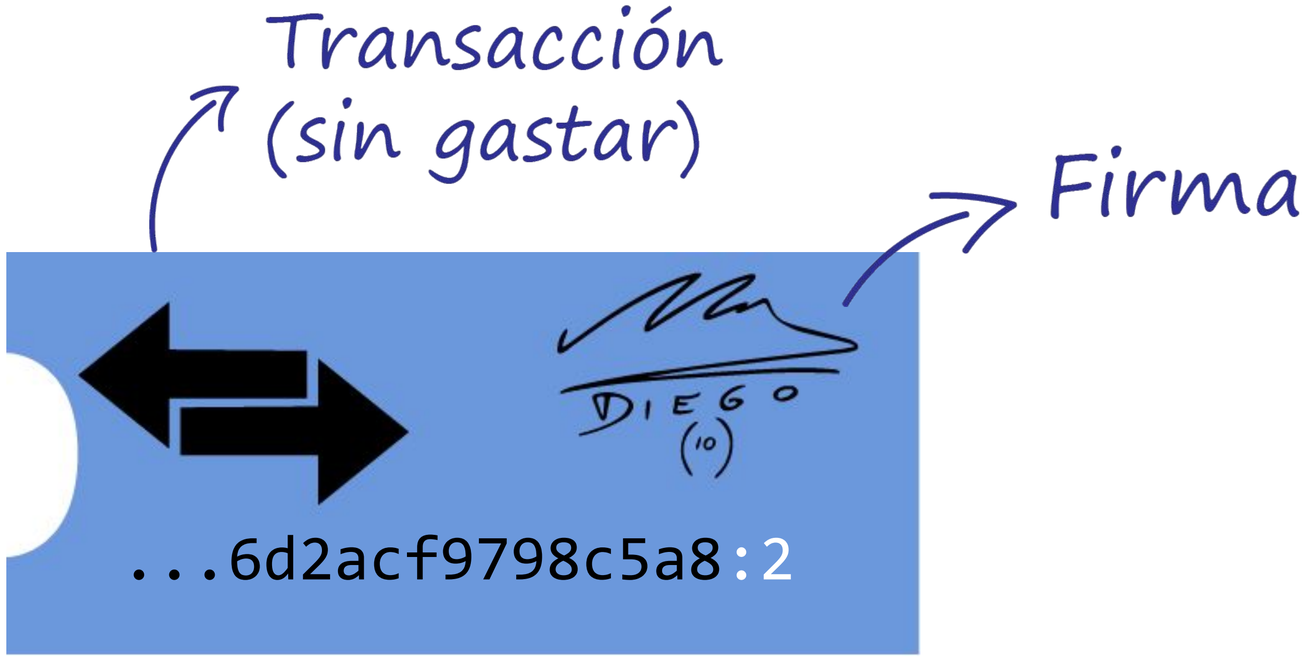
Anatomía de una transacción...

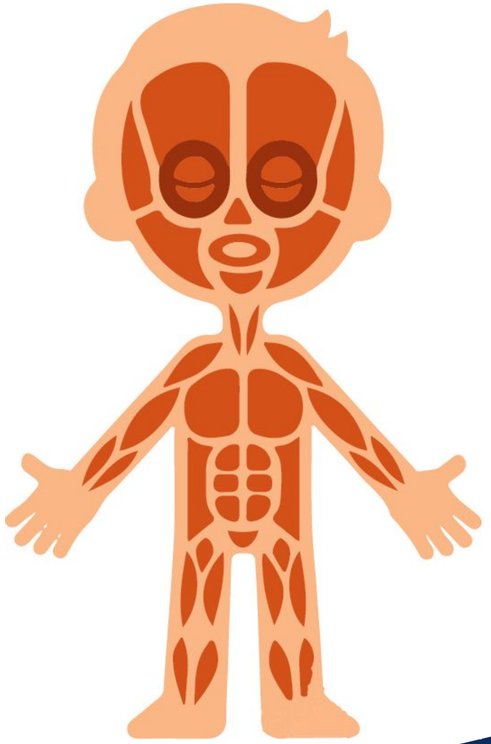




Output

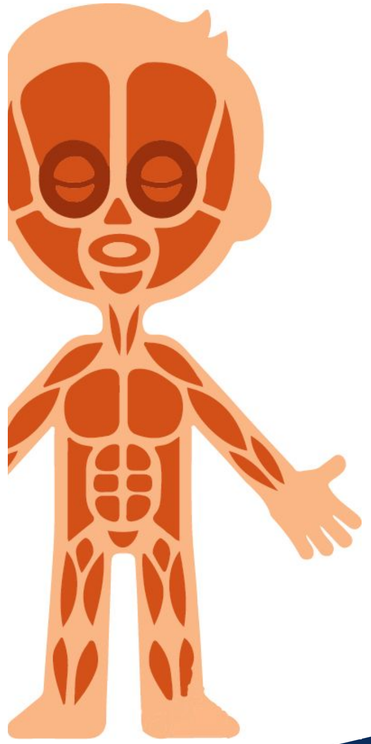
Anatomía de una transacción...



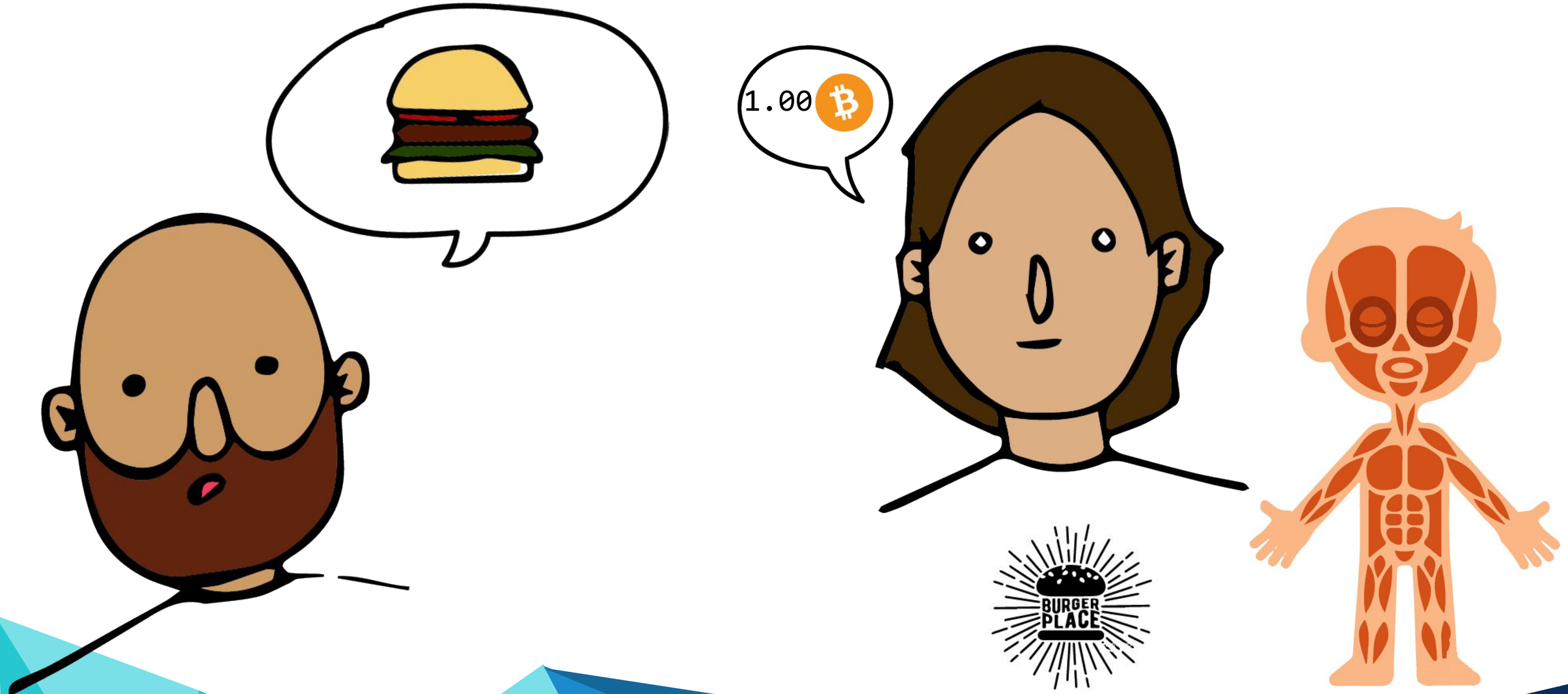


Input

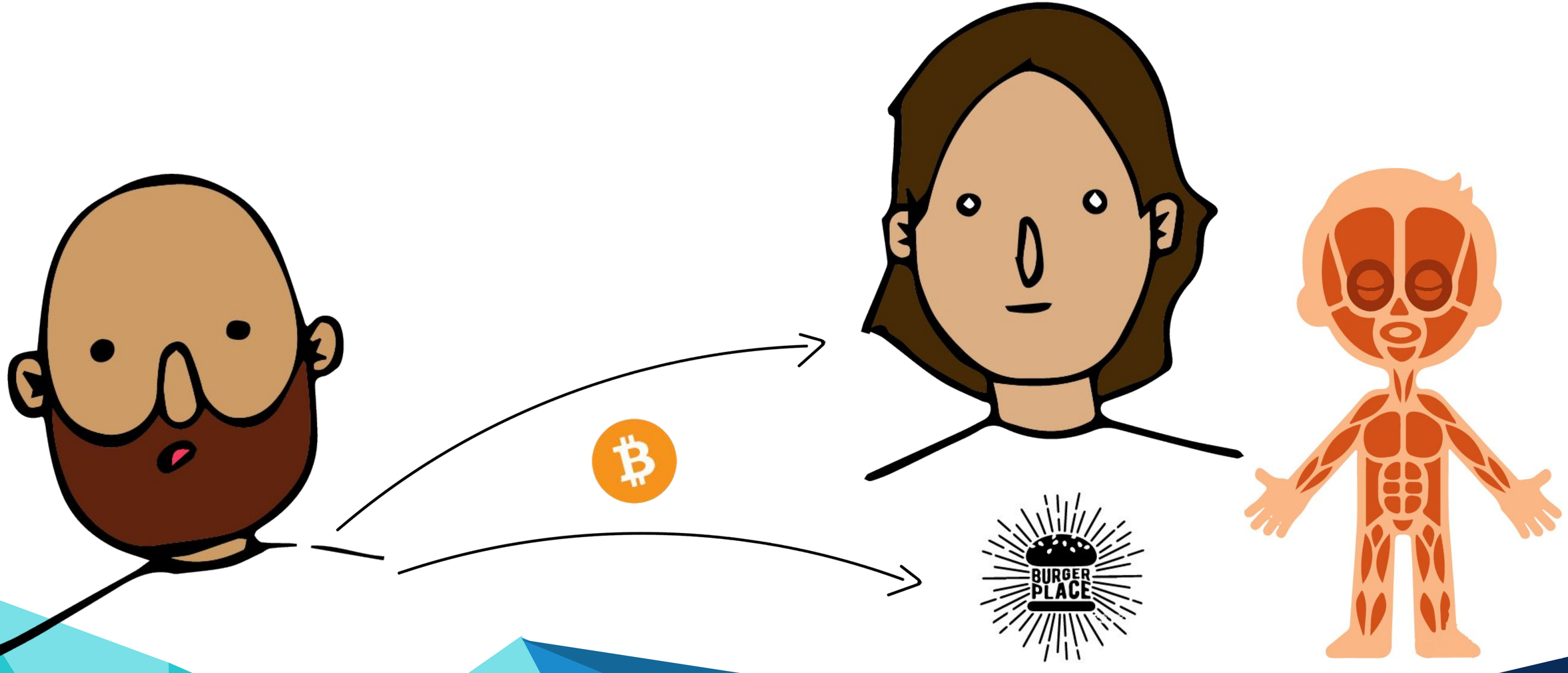
Anatomía de una transacción...



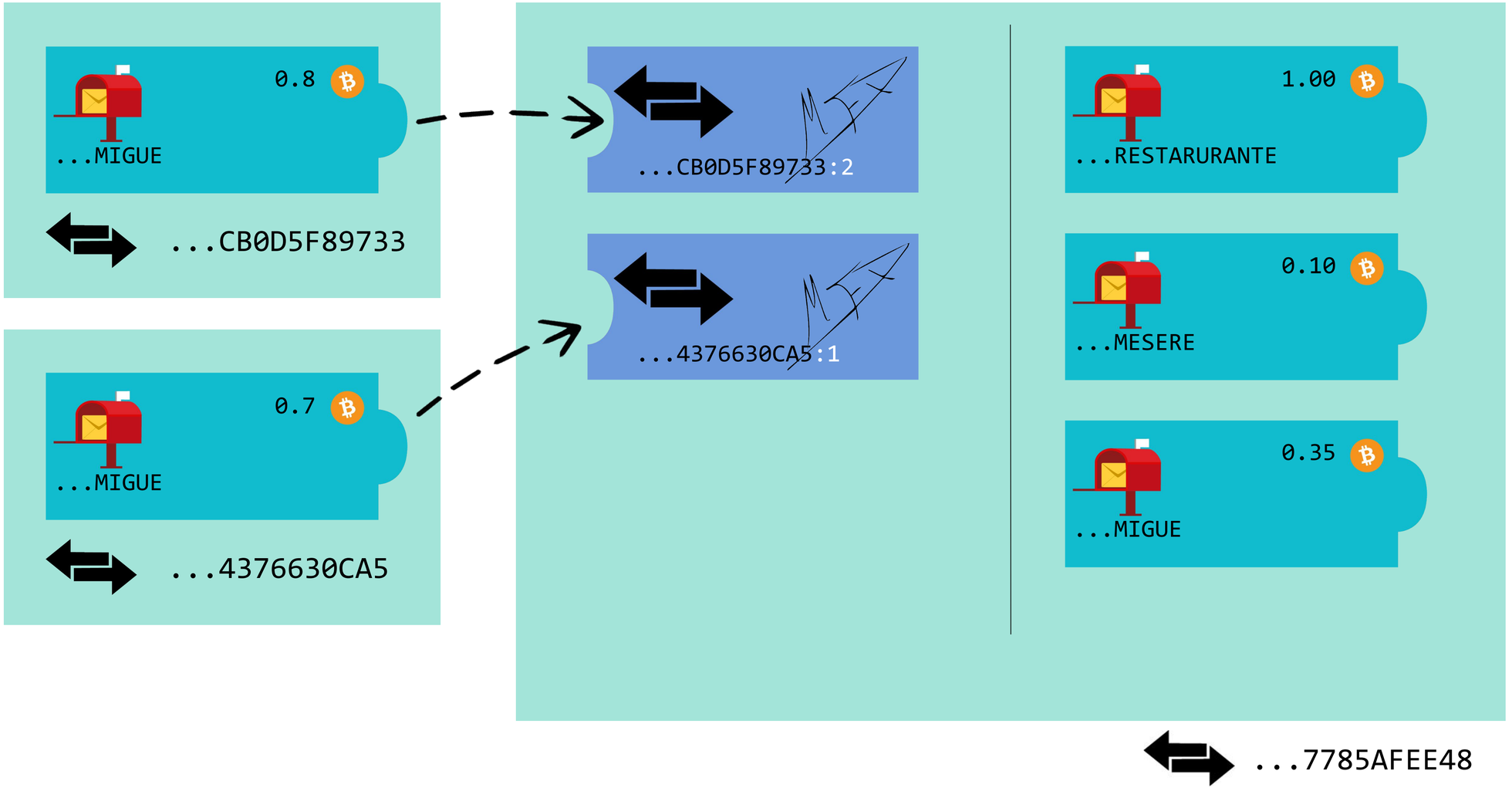
Anatomía de una transacción...

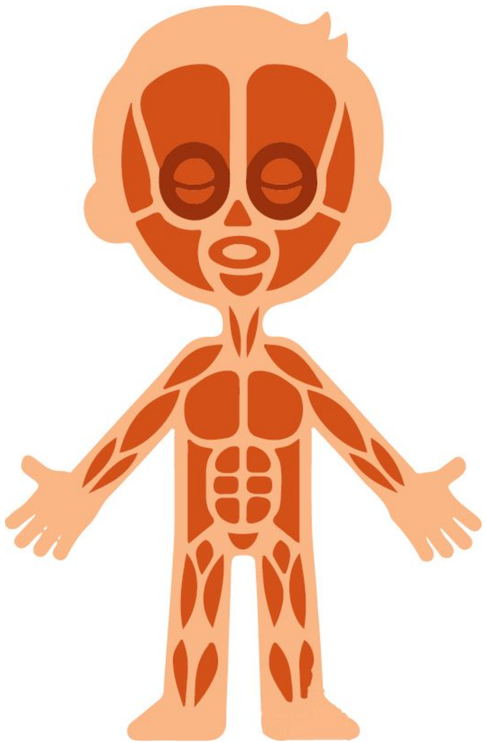


Anatomía de una transacción...



Anatomía de una transacción...





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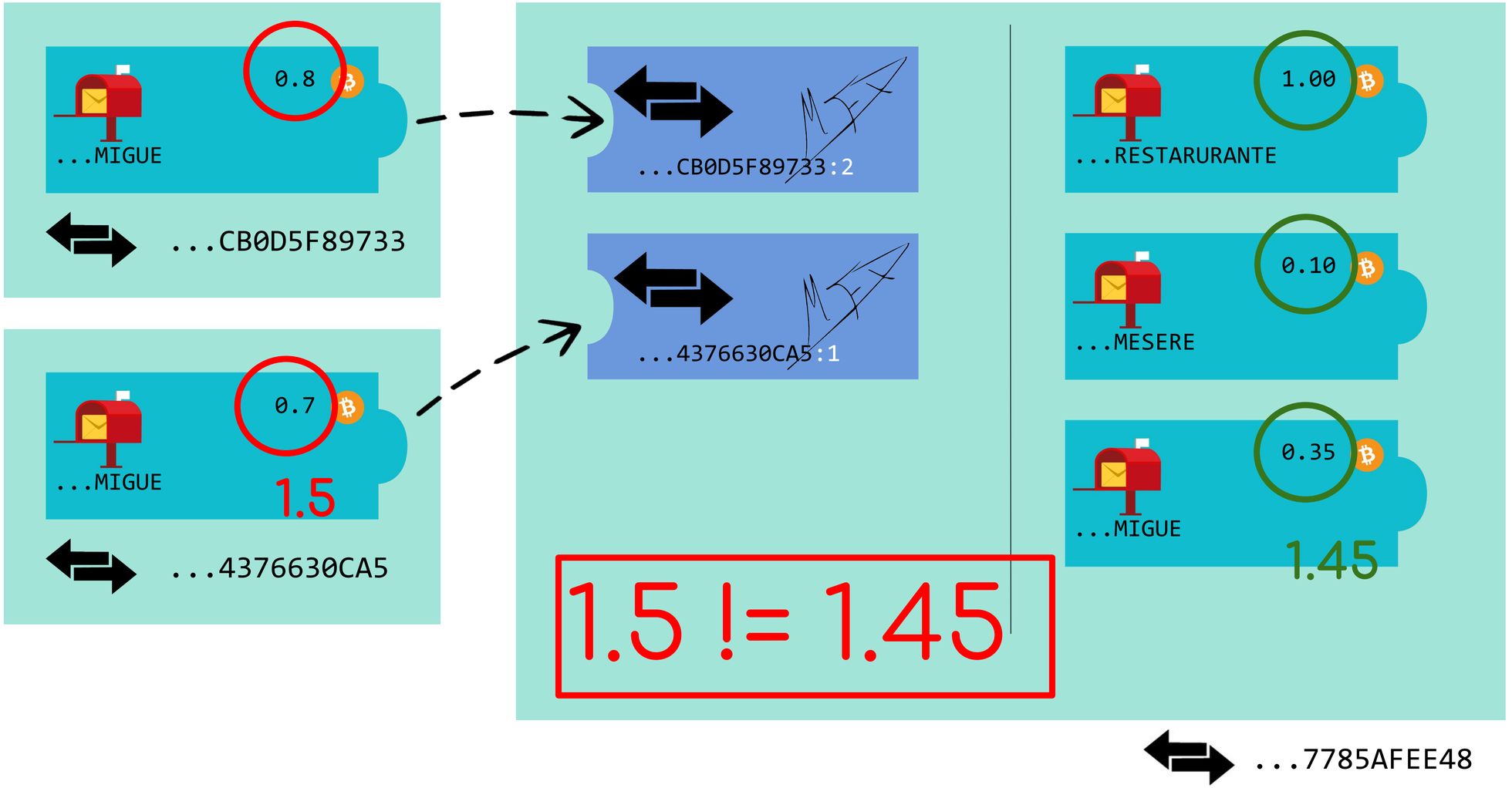
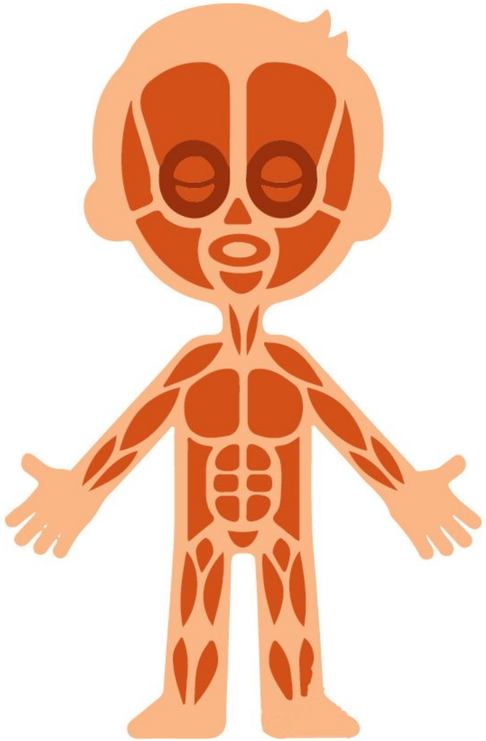
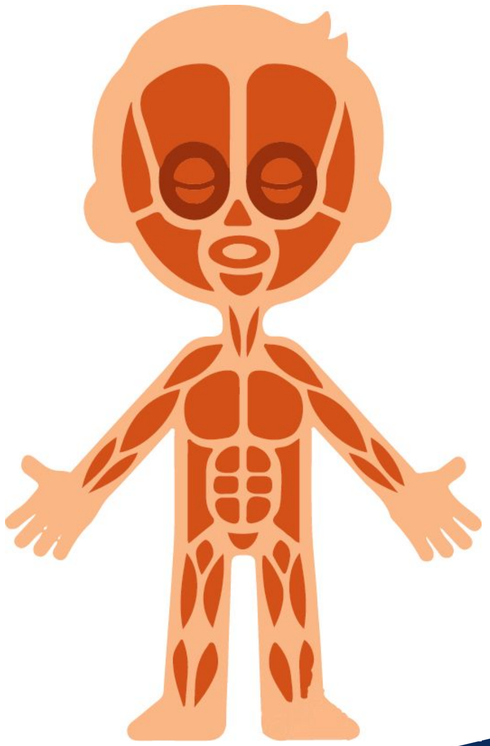




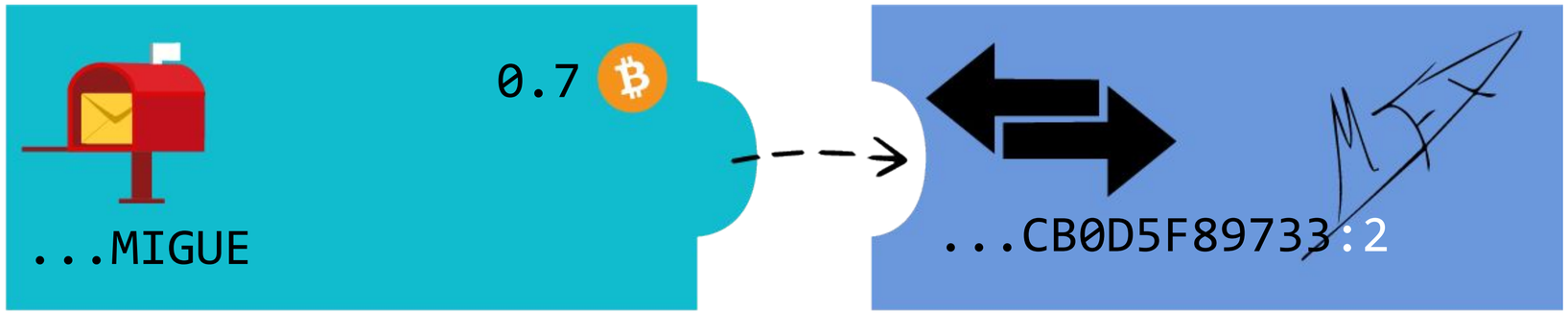
Tal vez con código se entiende mejor...

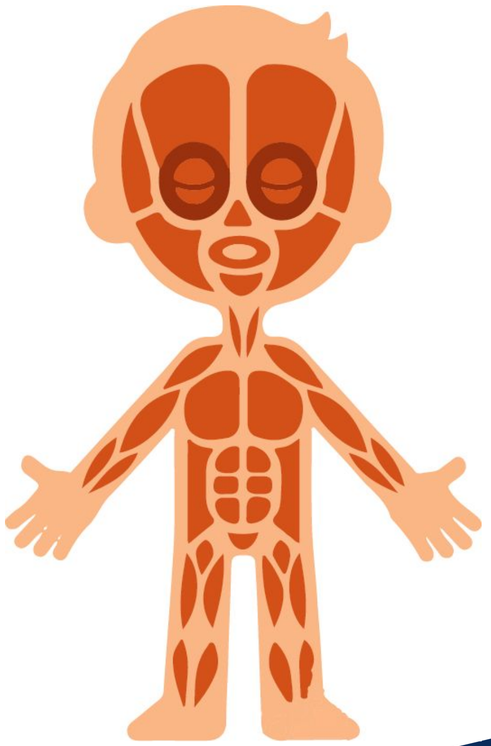
bitcore

```
import Bitcore from ‘bitcore-lib-cash’

var transaction = new Bitcore.Transaction()
  .to(direccionBurgerPlace, 1.0)
  .to(direccionMesere, 0.1)
  .change(direccionMigue)
  .from(outputSinGastar1)
  .from(outputSinGastar2)
  .sign(listaDeClavesPrivadas)

var txSerializada = tranaction.checkedSerialized()
bitcoinRpc.broadcast(txSerializada)
```



Cada input gasta un output

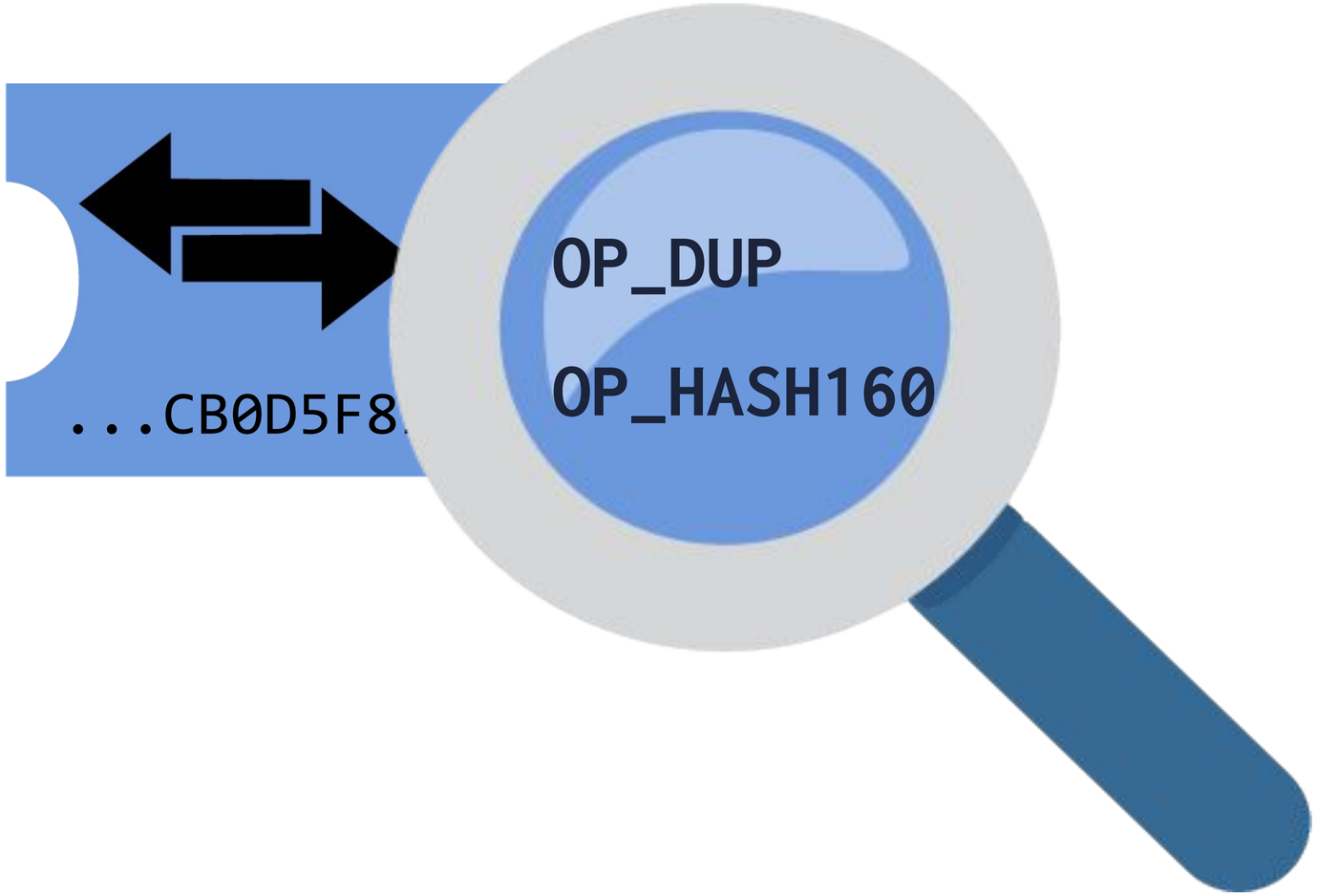


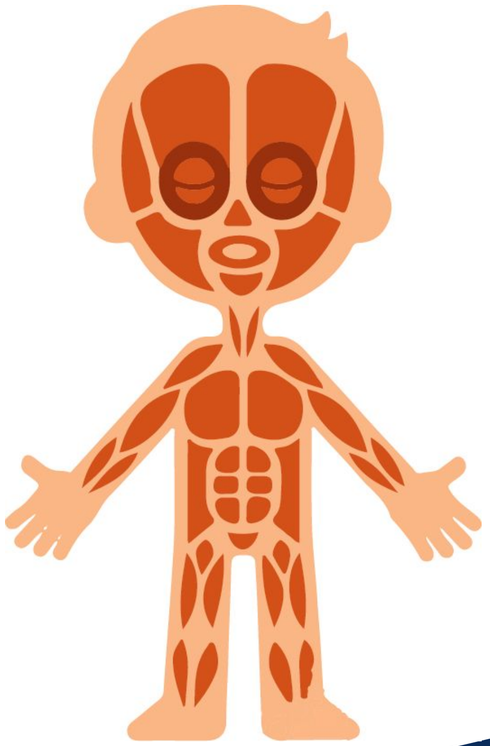


¿Qué hace que los criptos sean una moneda?

- **fungibilidad** (se gasta)

Anatomía de una transacción...





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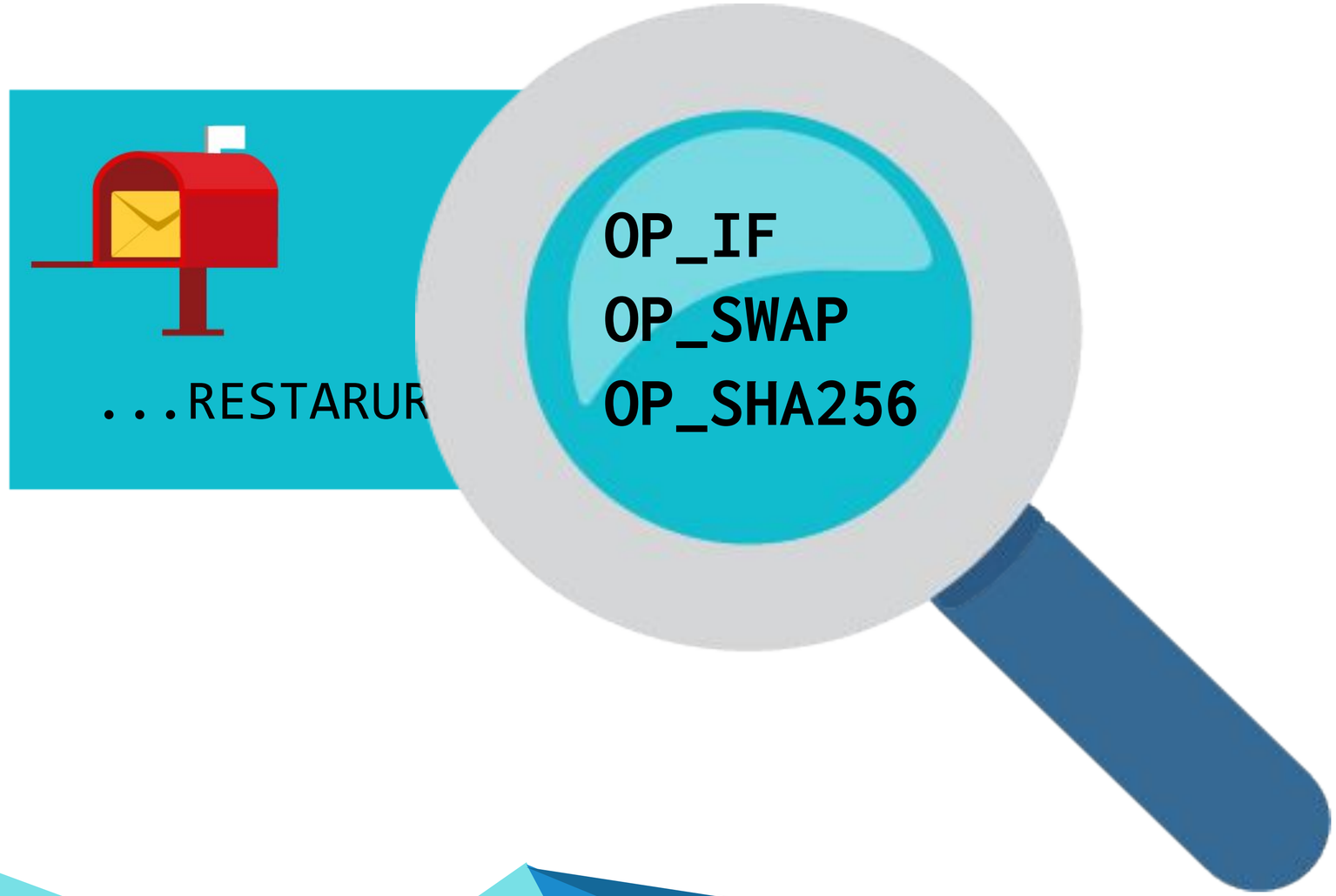

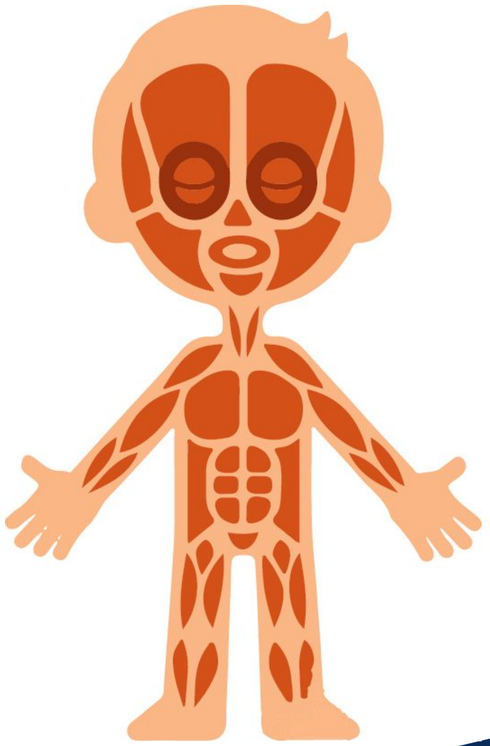

Y como quién no quiere la cosa...

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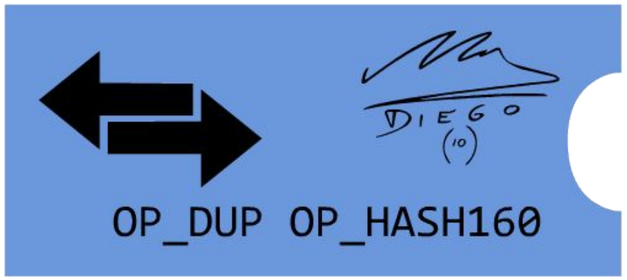

Scripts de Bitcoin

- Máquina virtual basada en una pila
- Opcodes standard
- NO son turing compatibles
- No hay bucles

Scripts de Bitcoin

pay-to-pubkey-hash

pay-to-pubkey-hash

OUTPUT: OP_DUP OP_HASH160 <clavePublicaHashada> OP_EQUALVERIFY OP_CHECKSIG

INPUT: **<firma>** <clavePublica>

pay-to-pubkey-hash

Vacía.| **<firma>** <clavePublica> OP_DUP OP_HASH160 <clavePublicaHashada> OP_EQUALVERIFY OP_CHECKSIG

Vacía.	**<firma>** <clavePublica> OP_DUP OP_HASH160 <clavePublicaHashada> OP_EQUALVERIFY OP_CHECKSIG
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true	_Termina con éxito_

pay-to-pubkey-hash

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pay-to-pubkey-hash

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pay-to-pubkey-hash

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true | _Termina con éxito_

pay-to-pubkey-hash

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pay-to-pubkey-hash

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true | _Termina con éxito_

pay-to-pubkey-hash

<firma> _<clavePublica>_| **OP_CHECKSIG**

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true	Termina con éxito_

pay-to-pubkey-hash

true | **Termina con éxito**

Vacía. | **<firma>** <clavePublica> OP DUP OP_HASH160 <clavePublicaHashada> OP_EQUALVERIFY OP_CHECKSIG

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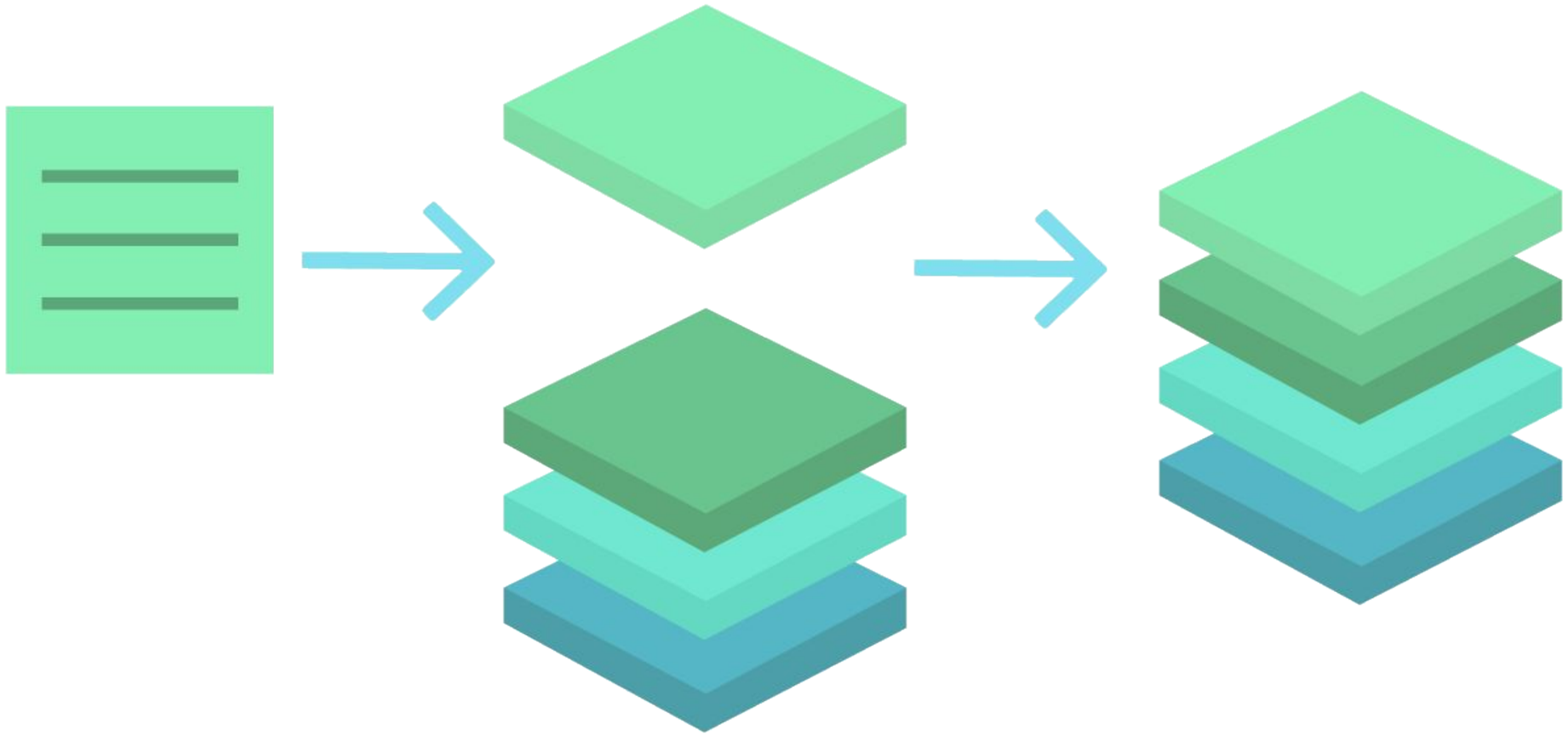
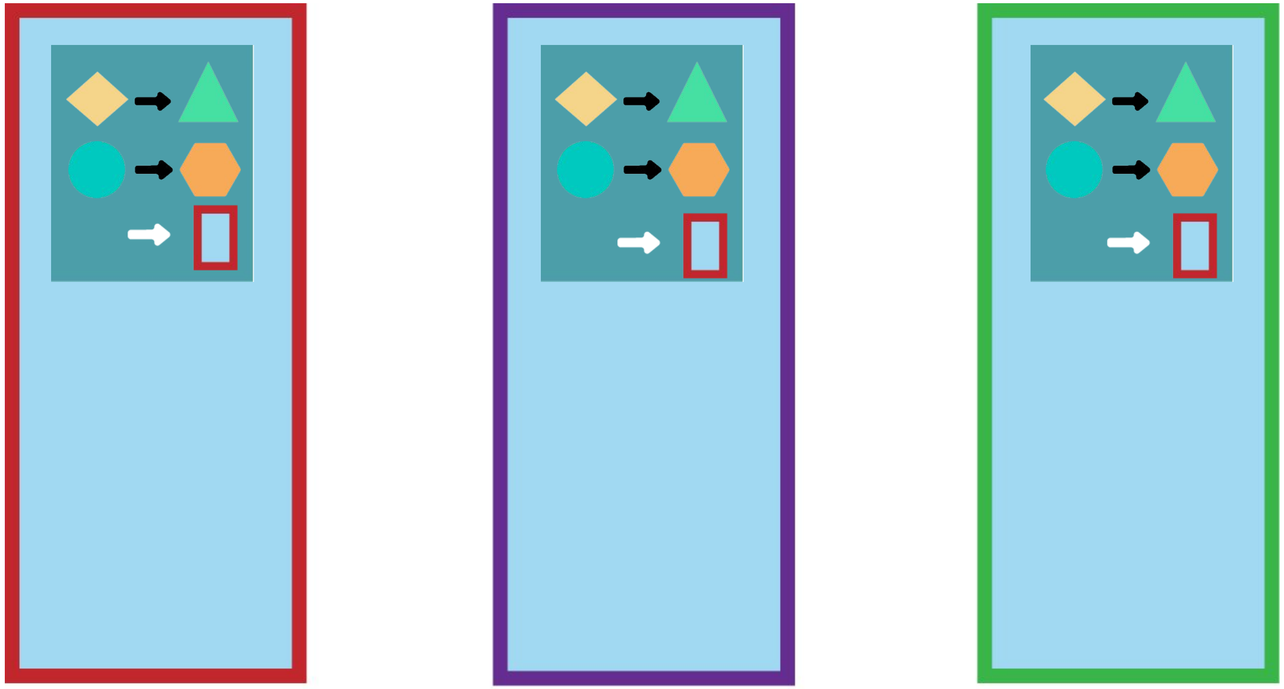
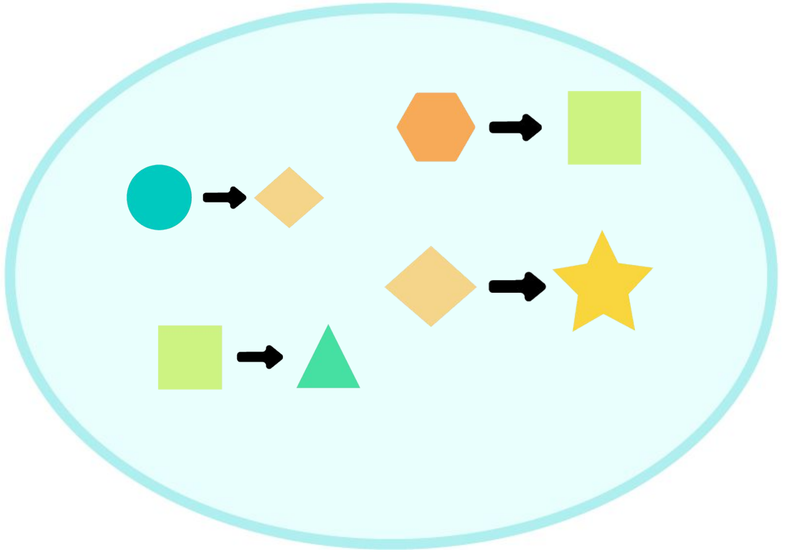
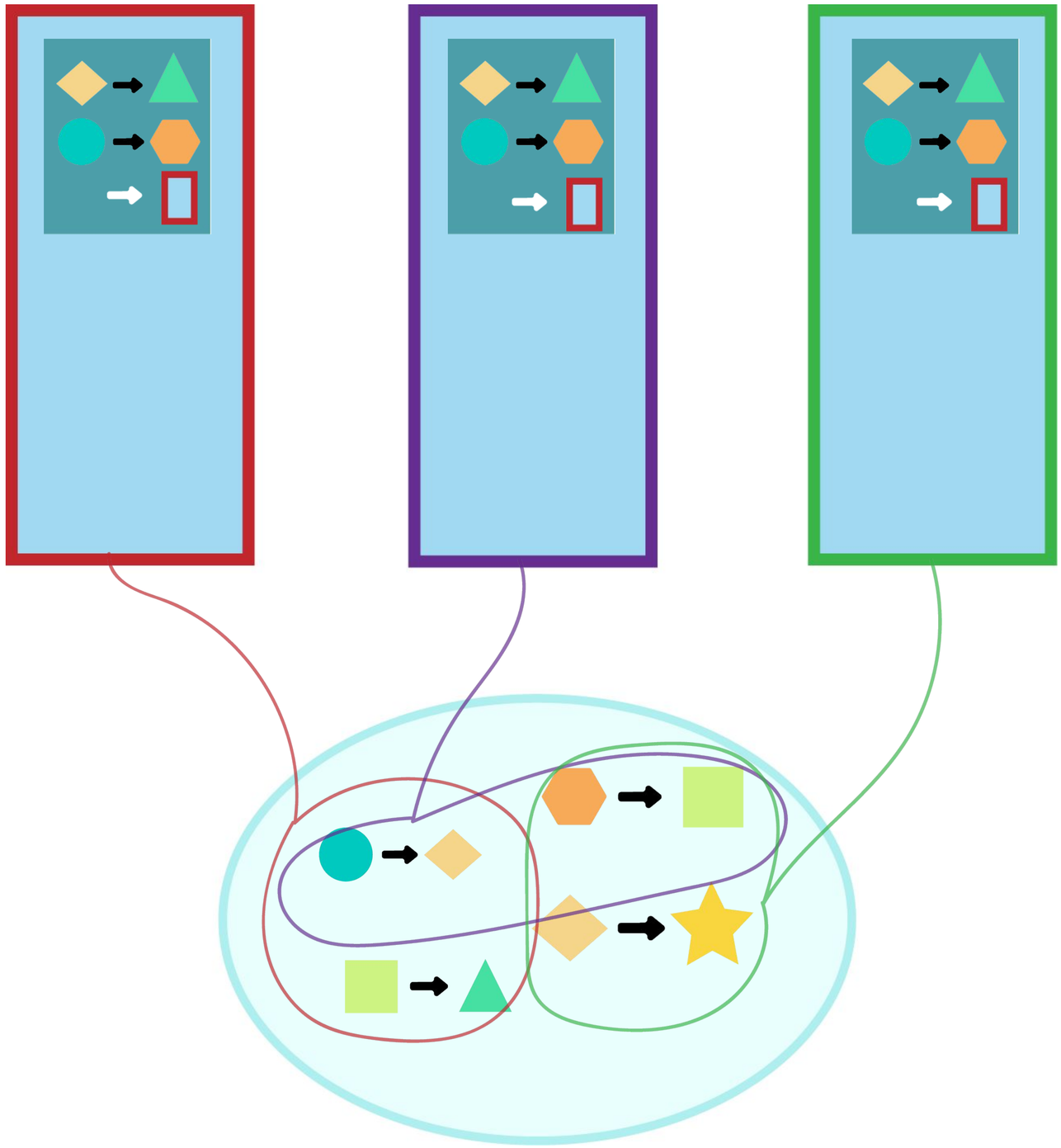
true | **Termina con éxito**

Consenso en un sistema distribuido

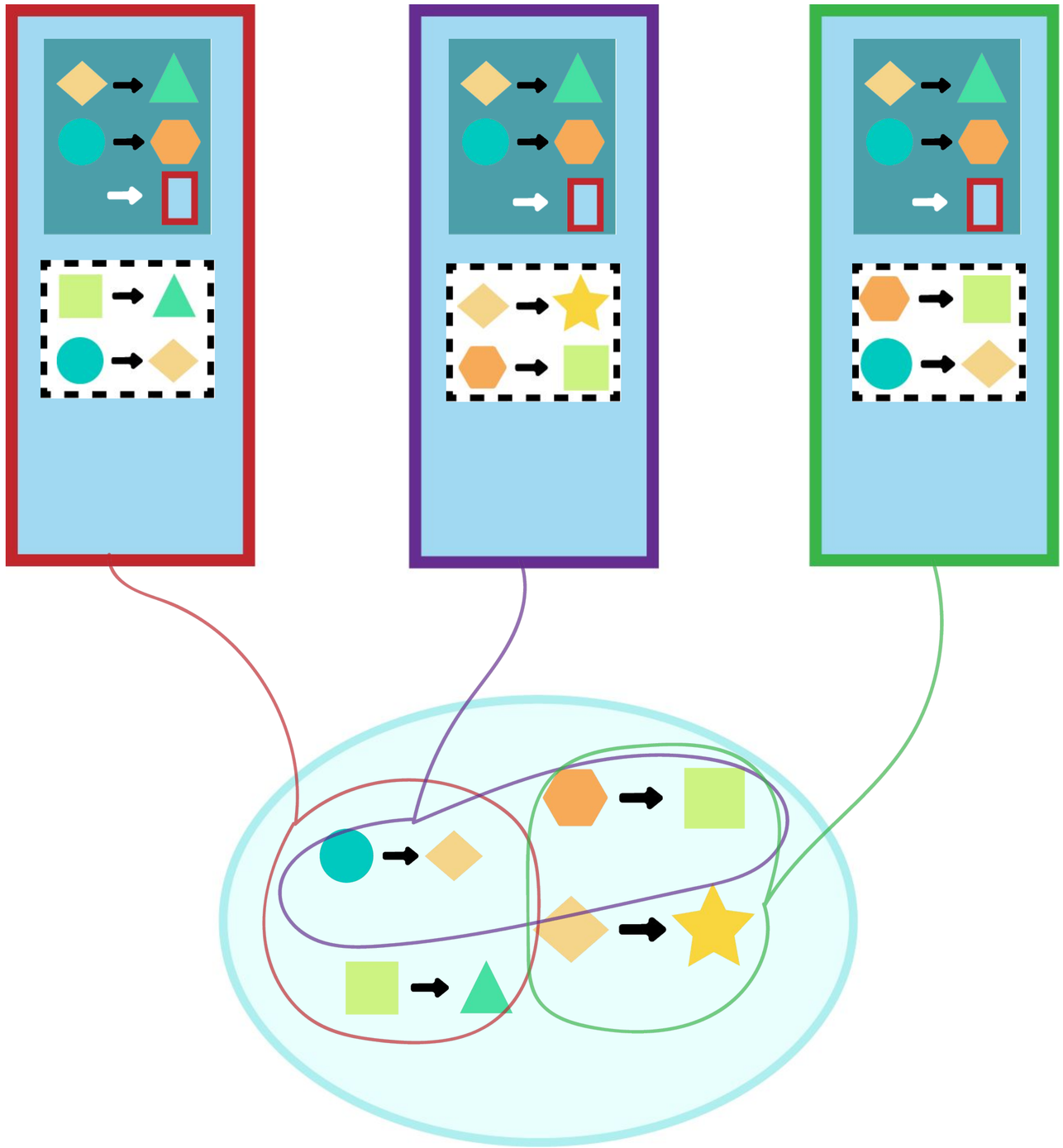








1MB



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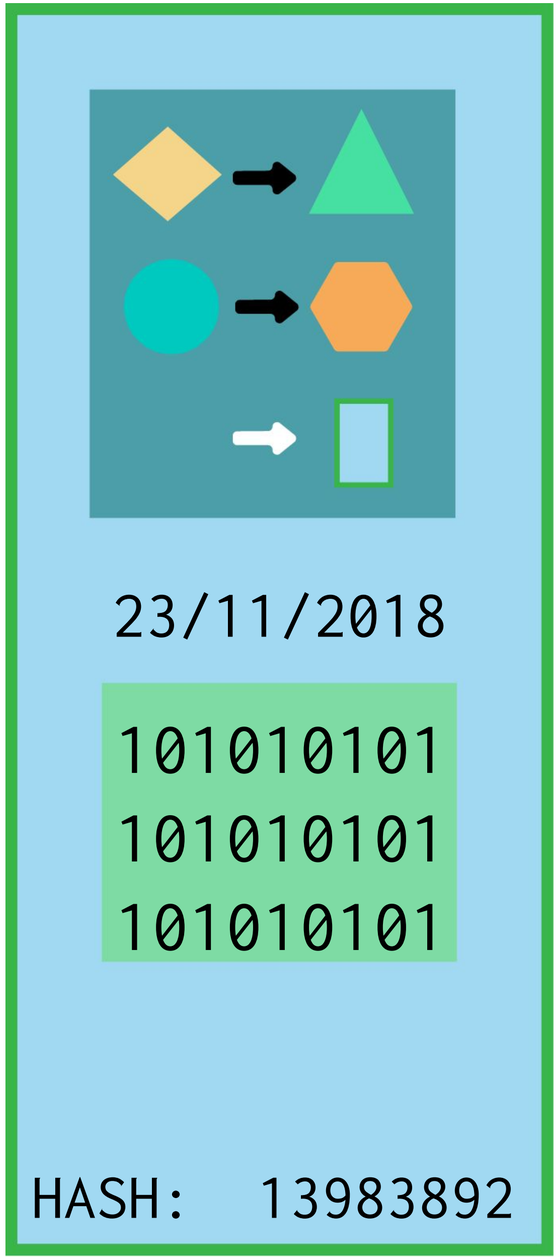

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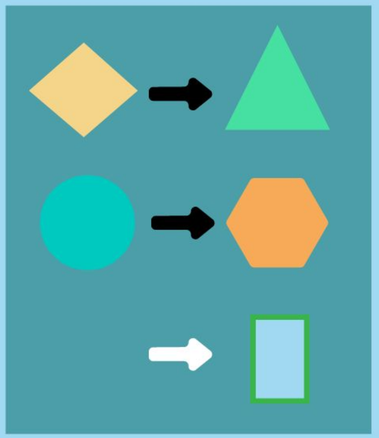

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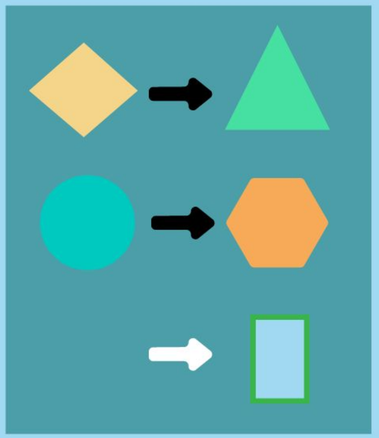

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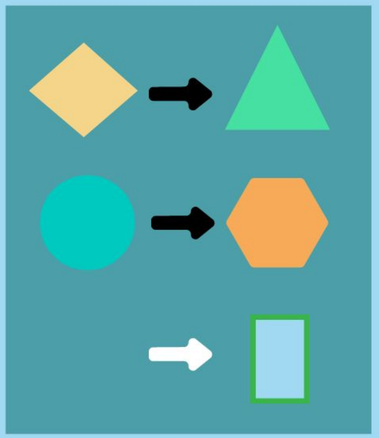

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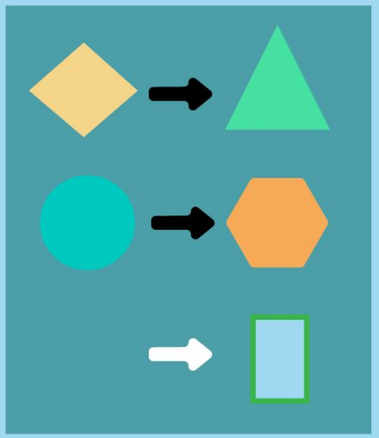

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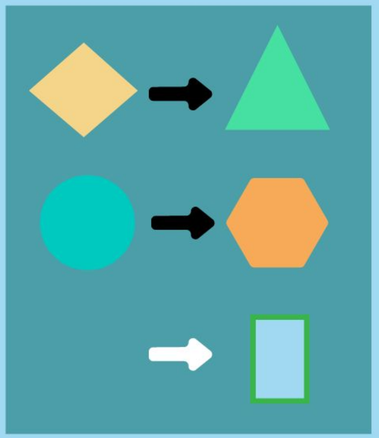

23/11/2018

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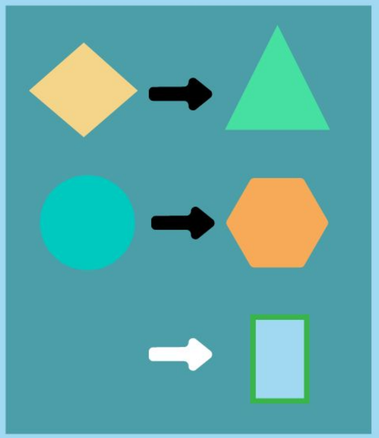

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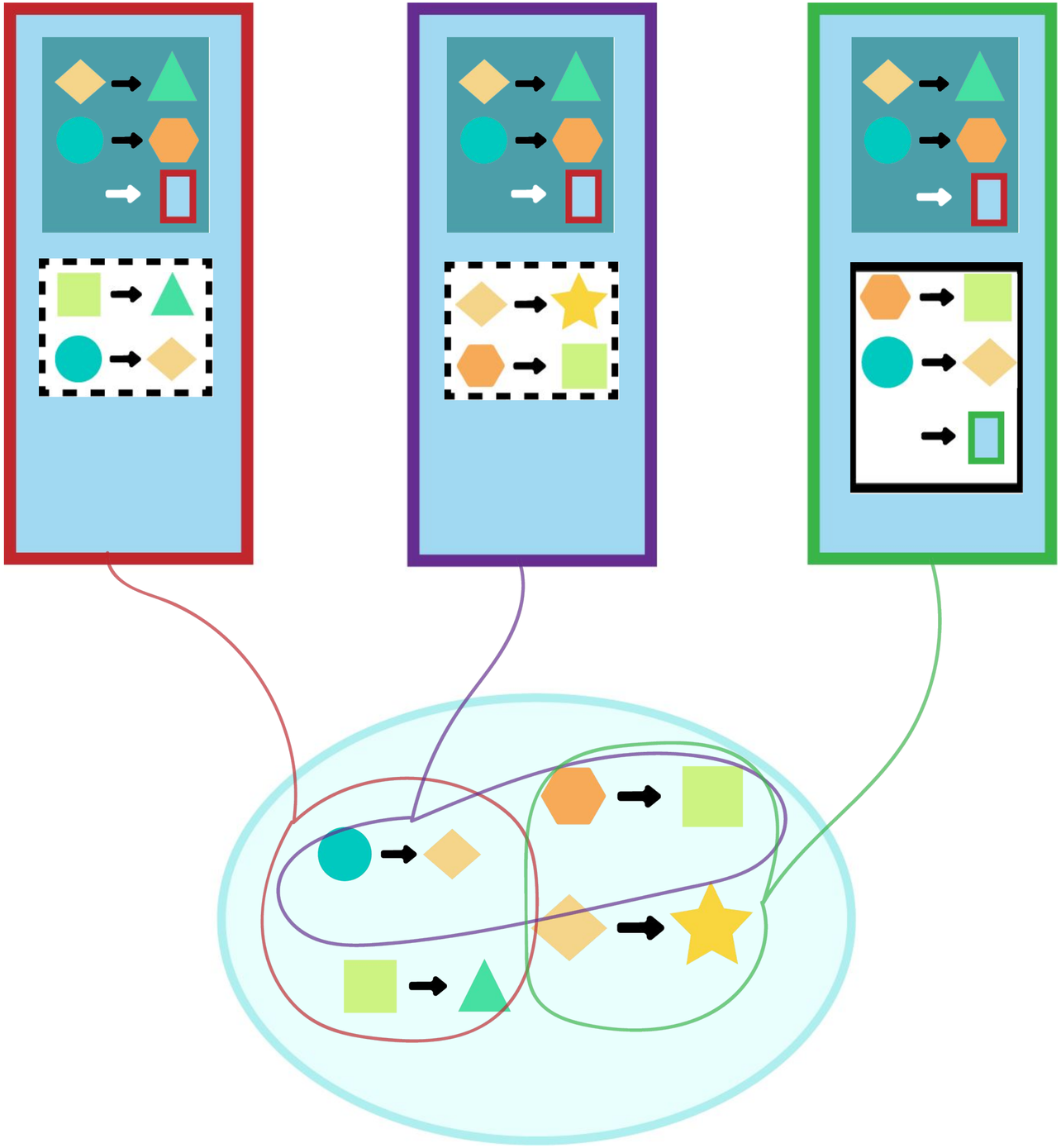

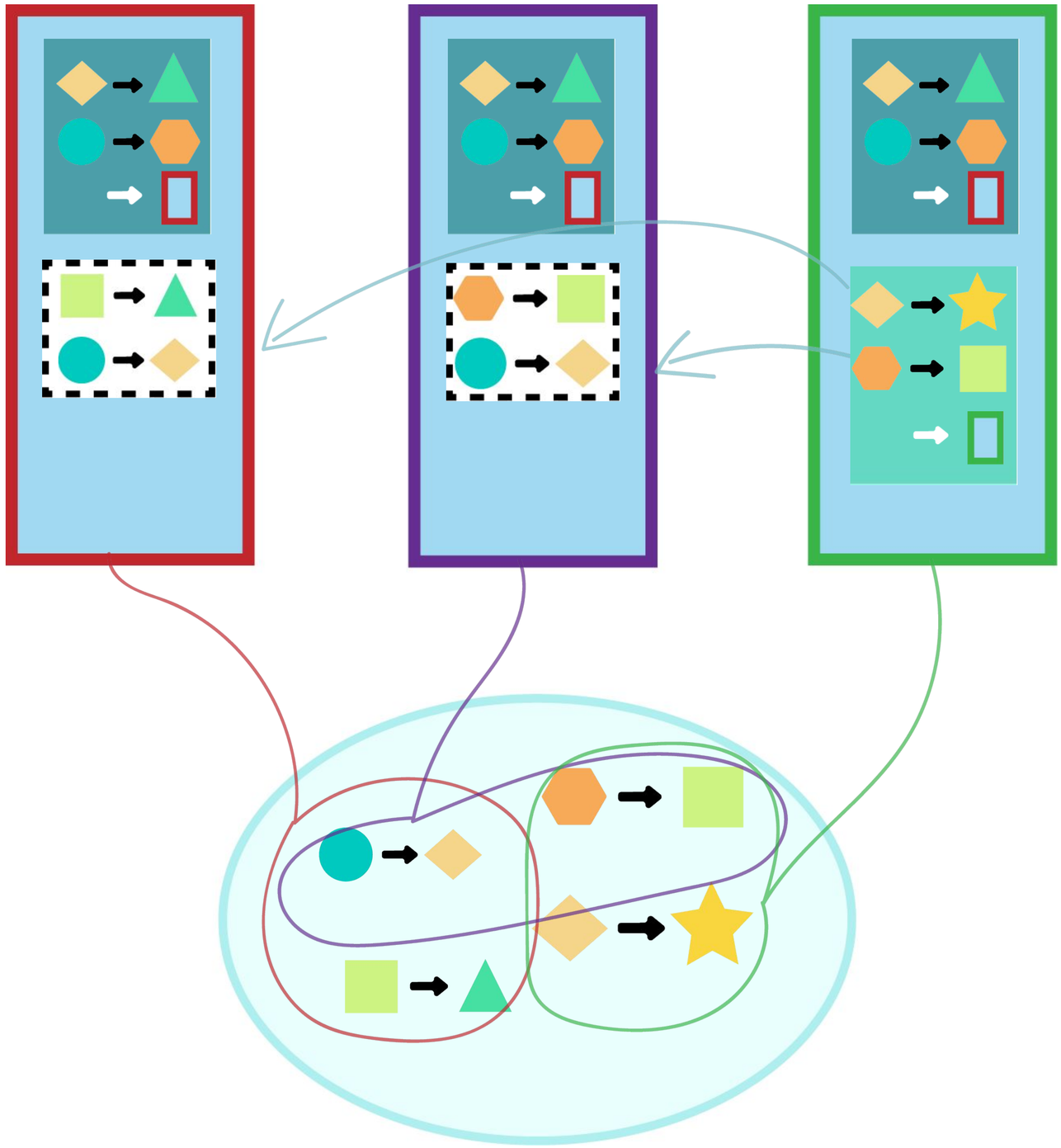

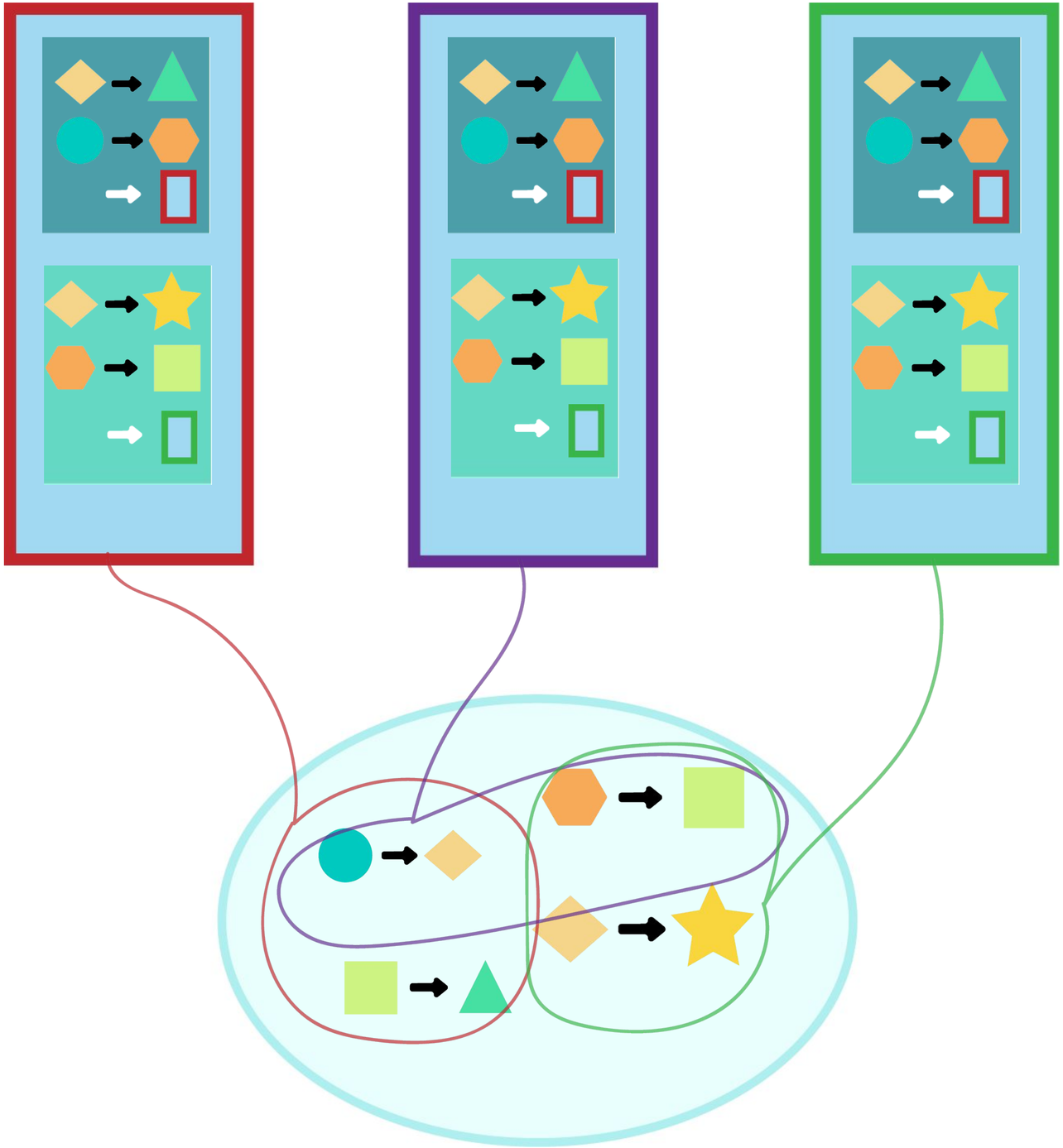

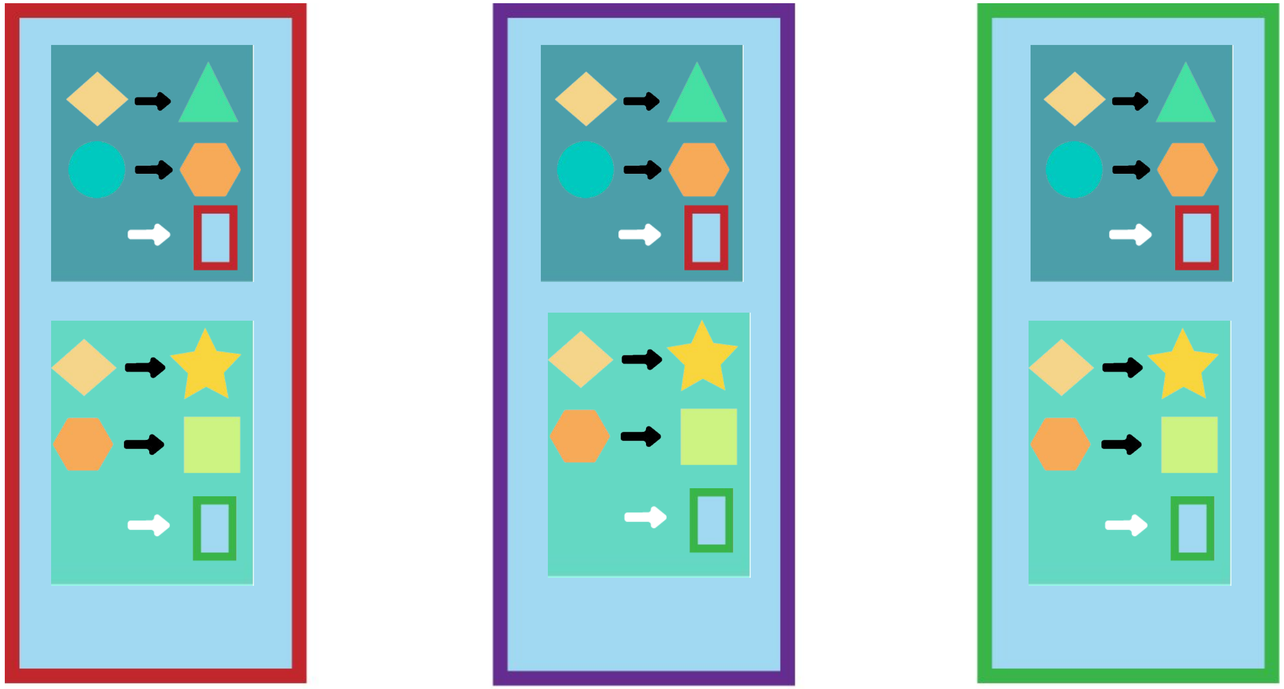

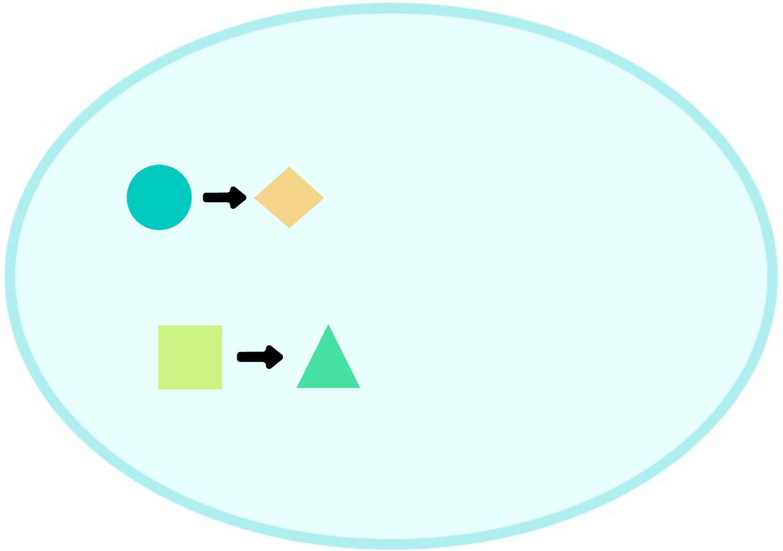

¿Qué hace que los criptos sean una moneda?

- ✓ fungibile
- ✓ segura
- ✓ Escasa
- ✓ Durable
- ? ¿Convención?

- ✗ Transacciones lentas (~1h)
- ✗ Transacciones caras (a veces)
- ✗ Dificil de entender

Hagamos de unos pequeños ajustes...

Bloques MUY GRANDES

BitcoinCash

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money button

UX para la **Blockchain**

Demo

¿Qué hace que los criptos sean una moneda?

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- ¿Convención?
- Transacciones instantáneas
- Transacciones baratas
- ¡Fácil de entender!

“

“Sound digital money for the entire world”

“*Dinero sólido y digital para todo el mundo*”

CREDITOS

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Gracias!

Contacto: @hojarasca miguel@moneybutton.com