

# Blockchain: Pizza til \$28.000.000

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# Motivation

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Hvad vil det sige at **eje** en bitcoin?

Digital signatures, Proof of work,

Cryptographic hash functions, Assymetric Cryptography...

Hvorfor er Blockchain så **komplekst**?

"For every complex problem there is an answer that is clear, simple, and **wrong**." — H. L. Mencken

# Motivation

Dude, I need some money. I have run out of it.



JOE

Sending some right away.



YOU

# Motivation

**June 26, 2017 11:00:00am**

You ----- Joe                      \$1000



# Motivation

Sent, bro.



YOU

Thanks, man. Love you.



JOE

Tillid mellem to parter afhænger af en **tredjepart**!

Udfordring:

lav et system hvor vi kan overføre penge  
uden at stole på banken

## Udfordring:

~~lav et system hvor vi kan overføre penge  
uden at stole på banken~~

vedligehold en hovedbog uden hjælp fra en tredjepart

Blockchain to the rescue!

# Mapper med papirer

Jargon: Distributed ledger

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# Mapper med papirer



#1



#2



#3



#4



#10



#5



#9



#8

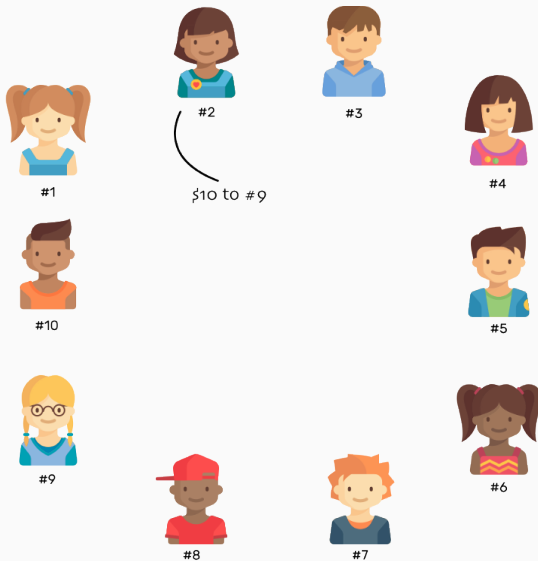


#7



#6

# Mapper med papirer





# Mapper med papirer

**June 26, 2017 11:00:00am**

#2 ----- #9

§10

# Mapper med papirer

**June 26, 2017 11:00:00am**

#2 ----- #9 §10

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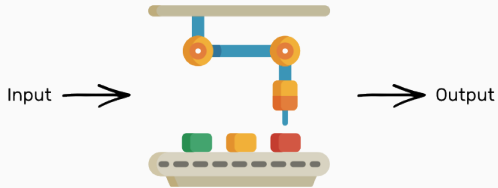
NO MORE PAGE

# Magiske maskiner

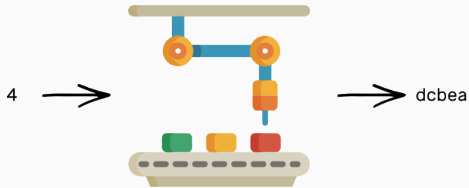
Jargon: Cryptographic hash functions

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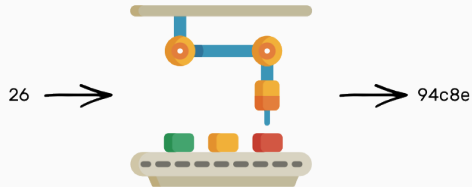
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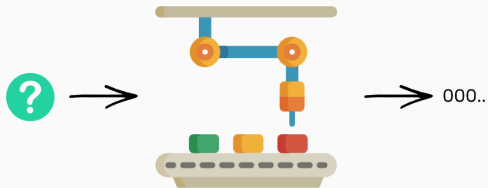
# Magiske maskiner



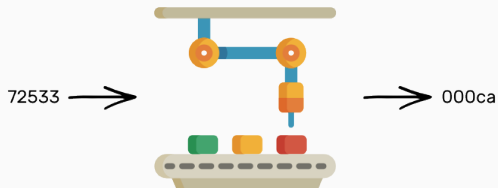
# Magiske maskiner



# Magiske maskiner



# Magiske maskiner





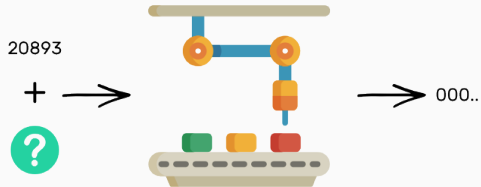
Input  $\rightarrow$  Output : *nemt*

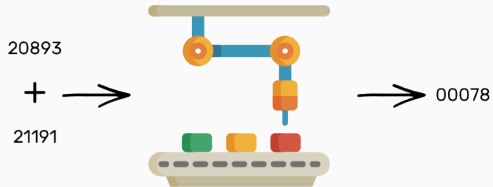
Output  $\rightarrow$  Input : (*ekstremt*) *svært*

# Forsegling

Jargon: Mining → Proof of work

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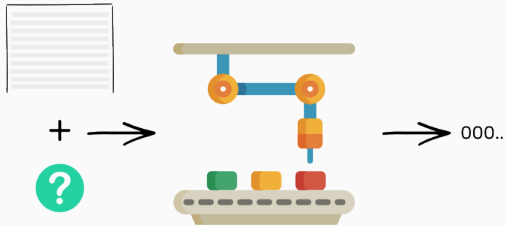




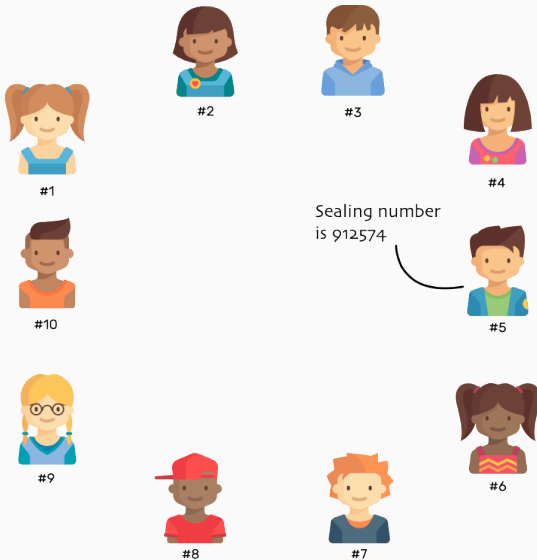
20893



21191



# Forsegling



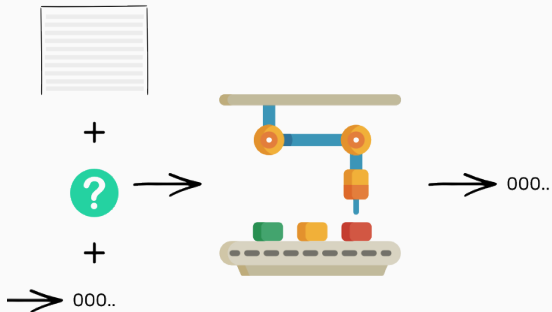
# Hæfteklammer

Jargon: 'chain' af Blockchain

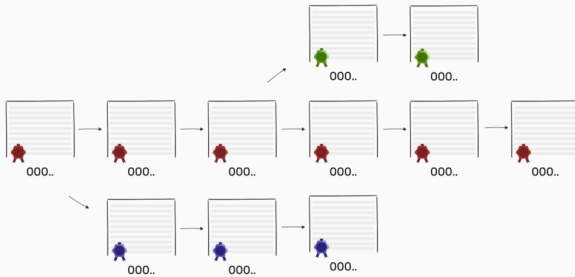
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# Hæfteklammer



# Hæfteklammer



# Underskrifter

Jargon: Cryptographic Digital Signatures

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# Underskrifter



#1



#2



#3



#4



#10



#5



#9



#8



#7



#6

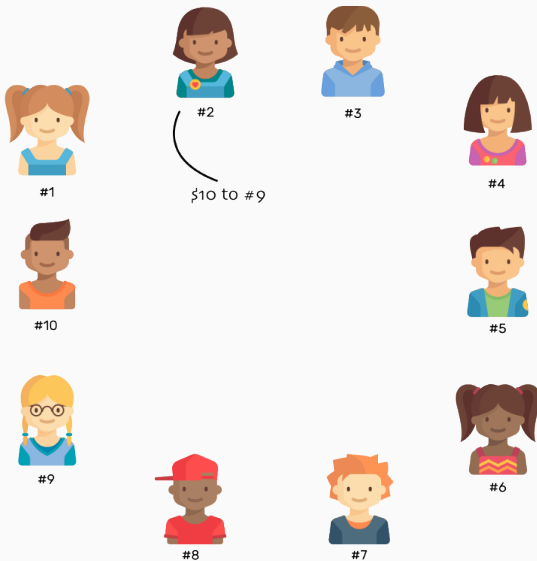
#1 → 1EJFbCLBiq9BNf5MZeXTGbPDdwnG2bDqtX

#2 → 144burjrm7iqDt6q1LBpZ4oDwxd3Ln95yp

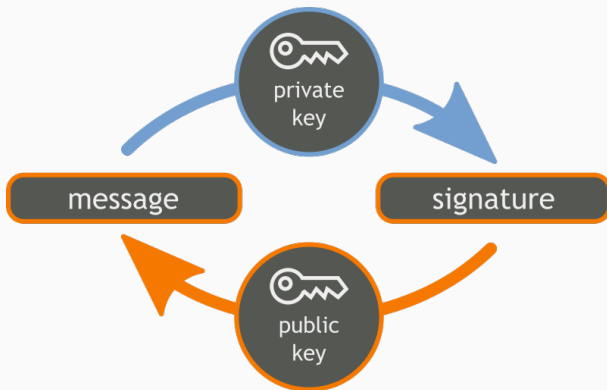
#3 → 1Kj5hMdZyEV46FDSfmqebvZemRqeJ6t2y5

#4 → ...

# Underskrifter



# Underskrifter



# Blockchain

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Papirer + Mapper + Segl + Hæfteklammer = Blockchain

Tak for i after!