

# Getalrepresentaties

decimaal, binair, hexadecimaal



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Decimaal (1)

**Binair (2, 3)** 

Hexadecimaal (4, 5)

Rekensommetjes (6, 7, 8)

Negatieve waarden (9, 10)

Kommagetallen (11)



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Hexadecimaal (4, 5)

Rekensommetjes (6, 7, 8)

Negatieve waarden (9, 10)

Kommagetallen (11)



binair → decimaal (herhaling)

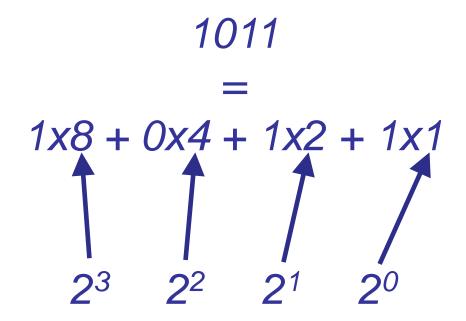
#### Het binaire stelsel

grondtal = 2 (er zijn slechts twee tekens: 0 en 1)



binair → decimaal (herhaling)

# Het binaire stelsel (binair → decimaal)





decimaal → binair

**Les 3:** 

Het binaire talstelsel (decimaal → binair)



decimaal → binair

Hoe kun je 3649 binair schrijven?



## **Binaire stelsel**

#### decimaal → binair

• 
$$2^0 = 1$$

$$2^7 = 128$$

• 
$$2^1 = 2$$

$$2^8 = 256$$

• 
$$2^2 = 4$$

$$2^9 = 512$$

• 
$$2^3 = 8$$

$$2^{10} = 1024$$

• 
$$2^4 = 16$$

$$2^{11} = 2048$$

• 
$$2^5 = 32$$

$$2^{12} = 4096$$

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$$2^6 = 64$$

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## **Binaire stelsel**

decimaal → binair

$$1 \times 2^0 = 1$$

$$0 \times 2^1 = 2$$

$$0 \times 2^2 = 4$$

$$0 \times 2^3 = 8$$

$$0 \times 2^4 = 16$$

$$0 \times 2^5 = 32$$

$$1 \times 2^6 = 64$$

$$0 \times 2^7 = 128$$

$$0 \times 2^8 = 256$$

$$1 \times 2^9 = 512$$

$$1 \times 2^{10} = 1024$$

$$1 \times 2^{11} = 2048$$



decimaal → binair

dus...

3649 decimaal

111001000001 binair







# Oefenopgaven:

decimaal → binair

8

20

269

1023



## Volgende les:

Het hexadecimale talstelsel (hexadecimaal → decimaal)