

RSA
AES

protocoles

MATHS

Théorie des nombres

PGCD Plus Grand Diviseur Commun

$$\text{gcd}(16; 104) =$$

$$\begin{array}{r|l} 104 & 16 \\ 96 & 6 \\ \hline 8 & \end{array}$$

$$\boxed{2 \cdot 2 \cdot 2 \cdot 2}$$
$$\boxed{2 \cdot 2 \cdot 2} \cdot 13$$

$$\text{gcd}(16; 8) = 8$$

1234321879123817312835212837248977745541

à factoriser

Algorithmes Calcul du gcd

$$\text{gcd}(16; 104) \quad 104 - 16 = \textcircled{88}$$

$$= \text{gcd}(88; 16) = \text{gcd}(24; 16)$$

$$= \text{gcd}(72; 16) = \text{gcd}(8; 16)$$

$$= \text{gcd}(56; 16) = \text{gcd}(8; 8)$$

$$= \text{gcd}(40; 16) = \text{gcd}(8; 0)$$

$$\gcd(16, 104) = \gcd(16, 8) \\ = \gcd(8, 0)$$

$$\begin{array}{r|l} 104 & 16 \\ 96 & 6 \\ \hline 8 & \end{array}$$

$$\gcd(36; 278) =$$

$$\begin{array}{r|l} 278 & 36 \\ 252 & 7 \\ \hline 26 & \end{array}$$

$$\begin{array}{r|l} 36 & 26 \\ 26 & 10 \\ \hline 10 & \end{array}$$

$$\gcd(36; 26) =$$

$$\gcd(26; 10) = \gcd(10; 6)$$

$$\begin{array}{r|l} 26 & 10 \\ 20 & 6 \\ \hline 6 & \end{array}$$

$$= \gcd(6; 4) = \gcd(4; 2) = \gcd(2; 0) \\ = 2$$

2.2.2 a' 2.2.6 \rightarrow mardi 7 novembre

$$\gcd(a; b) = \gcd(b; r) \quad a = b \cdot q + r$$