

# RSA – Key generation

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- ▶ Choose two large prime numbers  $P$  and  $Q$ .  $P=7$ ,  $Q=17$
- ▶ Calculate  $N=P*Q$ .  $N=119$
- ▶ Select the public key  $E$  such that it is not a factor of  $(P-1)(Q-1)$ .  
 $(P-1)(Q-1)=6*16$ . Let's choose  $E=5$
- ▶ Select the private key  $D$  such that the following is true:
  - ▶  $(D*E) \bmod (P-1)(Q-1) = 1$
- ▶ Let's choose  $D=77$ , because  $77*5 \bmod 96 = 1$