# CÁLCULO DE COMBINAÇÃO C(n,k)

$$\binom{n}{k} = C_{n,k} = \frac{n!}{k!\,(n-k)!}$$

$5! = 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 120$

$3! = 3 \cdot 2 \cdot 1 = 6$

$10! = 10 \cdot 9 \cdot 8 \cdots\cdots 1$

$1! = 1$

$0! = 1$

$C_{5,2}$

$$\binom{5}{2} = \frac{5!}{2!\ 3!}$$

$$\frac{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{2 \cdot 1 \cdot 3 \cdot 2 \cdot 1} = \frac{20}{2} = 10$$

$$\frac{5 \cdot 4 \cdot 3!}{2 \cdot 1 \cdot 3!} = 10$$

$$C_{30,27} = \binom{30}{27} = \frac{30!}{27! \cdot 3!} = \frac{30 \cdot 29 \cdot 28 \cdot 27!}{27! \cdot 3 \cdot 2 \cdot 1} = 4060$$

A, B, C, D, E

AB AC AD AE BC BD BE CD CE DE

$$\binom{5}{2} = 10$$