$$\binom{n}{k} = \frac{n!}{k! \cdot (n-k)!} = \prod_{i=0}^{k-1} \frac{n-i}{k-i}$$

Rekursion:

$$\binom{n}{k} = \binom{n-1}{k-1} + \binom{n-1}{k}$$

Pascalsches Dreieck:

$$\begin{array}{ccccccccccc}
\binom{6}{1} & & \binom{6}{2} & & \binom{6}{3} & & \binom{6}{4} & & \binom{6}{5} & & \binom{6}{6} \\
& \binom{5}{1} & & \binom{5}{2} & & \binom{5}{3} & & \binom{5}{4} & & \binom{5}{5} & \\
& & \binom{4}{1} & & \binom{4}{2} & & \binom{4}{3} & & \binom{4}{4} & & \\
& & & \binom{3}{1} & & \binom{3}{2} & & \binom{3}{3} & & & \\
& & & & \binom{2}{1} & & \binom{2}{2} & & & & \\
& & & & & \binom{1}{1} & & & & &
\end{array}$$

Zur Berechnung von $\dbinom{n}{k}$ genügen $\mathcal{O}(k \cdot n)$ Additionen.