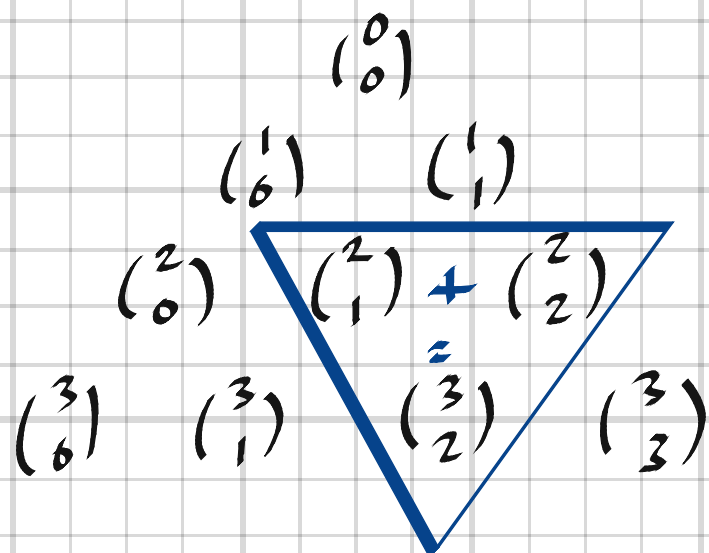


Pascals formel

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



ex. $n=3, r=2 \Rightarrow \binom{3}{2} = \binom{2}{1} + \binom{2}{2}$

$$\text{HL} = \binom{n-1}{r-1} + \binom{n-1}{r} = \frac{(n-1)!}{(r-1)! (n-r)!} + \frac{(n-1)!}{r! (n-r-1)!} =$$

$$= \frac{r \cdot (n-1)!}{r \cdot (r-1)! (n-r)!} + \frac{(n-r) (n-1)!}{r! (n-r) (n-r-1)!} =$$

$$= \frac{r \cdot (n-1)!}{r! (n-r)!} + \frac{(n-r) (n-1)!}{r! (n-r)!} =$$

$$= \frac{n (n-1)!}{r! (n-r)!} = \frac{n!}{r! (n-r)!} = \binom{n}{r} = \text{VL} \quad \#$$