

Given r and n are integers and $0 \leq r \leq n$, then the symbol $\binom{n}{r}$ is defined as

$$\binom{n}{r} = \frac{n!}{r!(n-r)!}$$

the symbol $\binom{n}{r}$ is spoken " n taken r at a time."

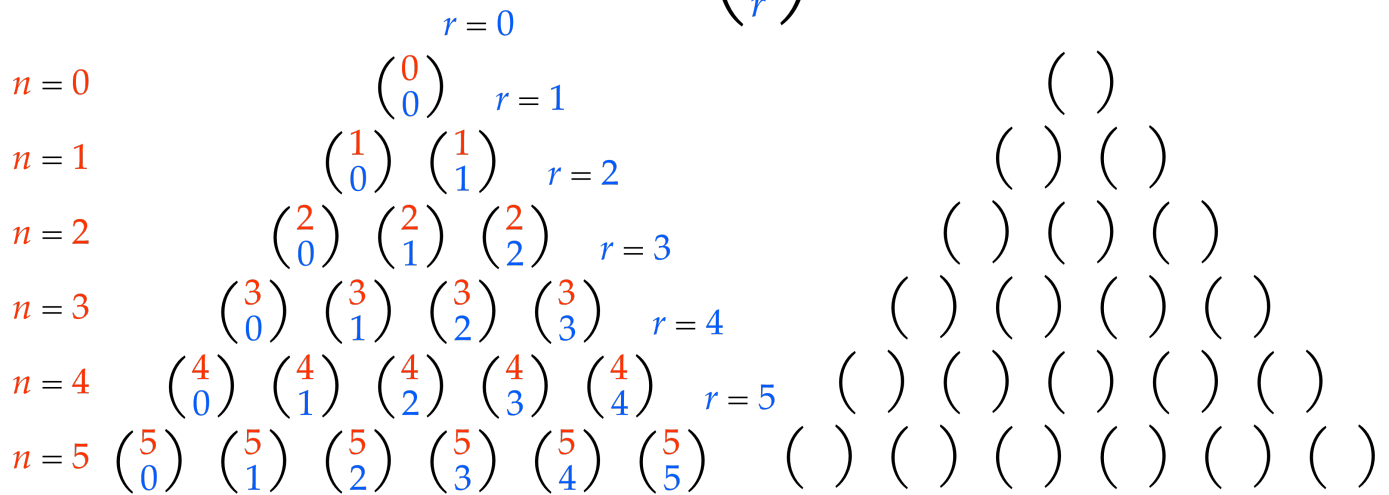
Pascal's Triangle

using $\binom{n}{r}$

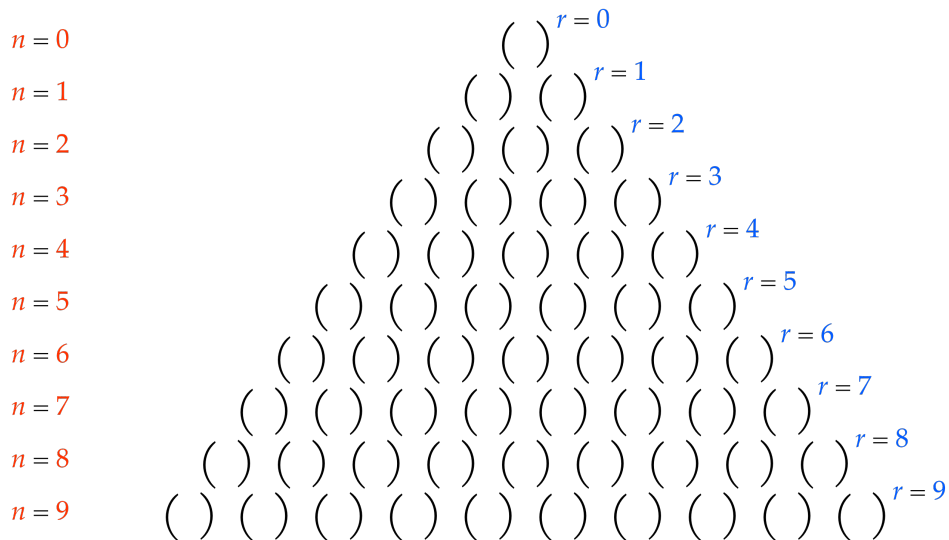
$$\begin{array}{cccccc}
 & & & & & r=0 \\
 & & & & \binom{0}{0} & \\
 n=0 & & & & & r=1 \\
 & & & \binom{1}{0} & \binom{1}{1} & \\
 n=1 & & & & & r=2 \\
 & & \binom{2}{0} & \binom{2}{1} & \binom{2}{2} & \\
 n=2 & & & & & r=3 \\
 & \binom{3}{0} & \binom{3}{1} & \binom{3}{2} & \binom{3}{3} & \\
 n=3 & & & & & r=4 \\
 & \binom{4}{0} & \binom{4}{1} & \binom{4}{2} & \binom{4}{3} & \binom{4}{4} \\
 n=4 & & & & & r=5 \\
 & \binom{5}{0} & \binom{5}{1} & \binom{5}{2} & \binom{5}{3} & \binom{5}{4} & \binom{5}{5} \\
 n=5 & & & & & &
 \end{array}$$

Pascal's Triangle

using $\binom{n}{r}$



Pascal's Triangle

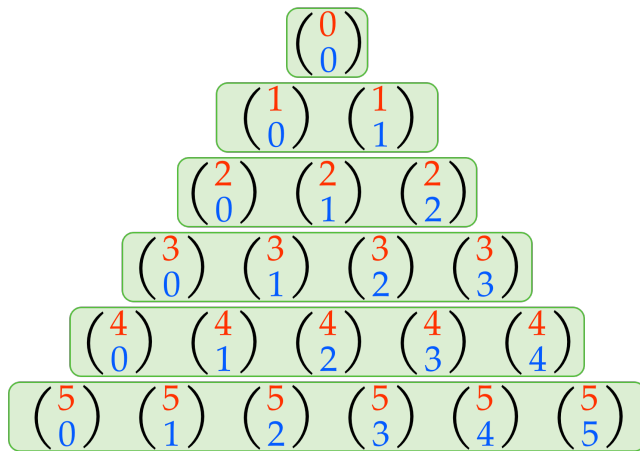


Pascal's Triangle

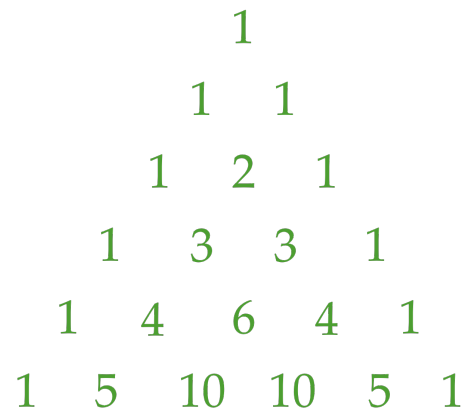
$$\binom{n}{r}$$

$$\binom{n}{r} = \frac{n!}{r!(n-r)!}$$

Numerical Values

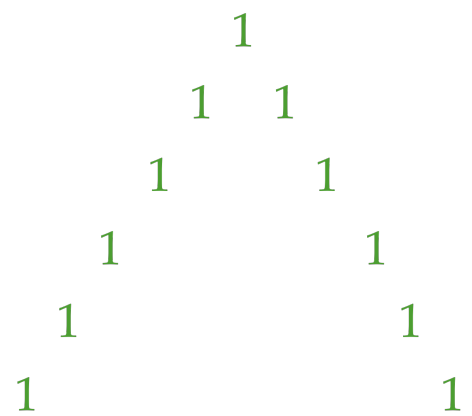
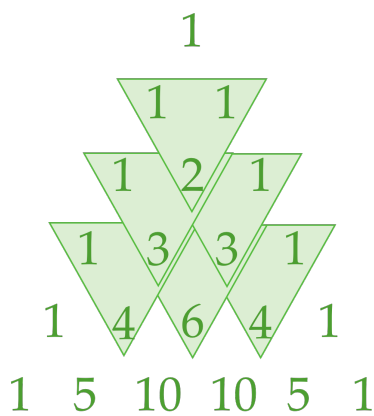


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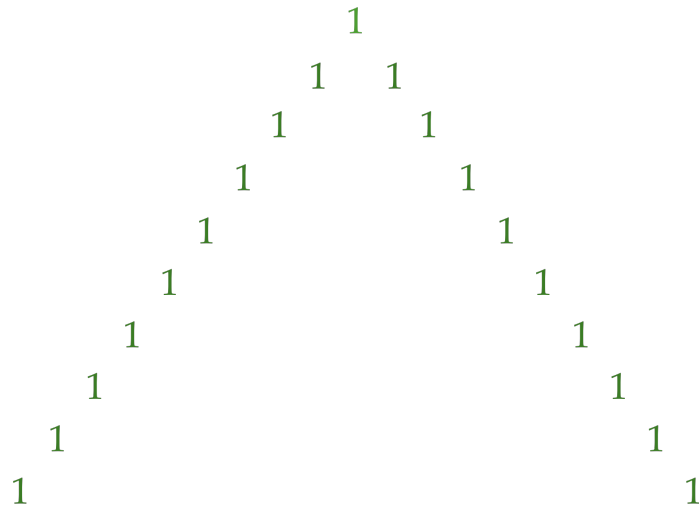


Pascal's Triangle

$$\binom{n}{r} = \frac{n!}{r!(n-r)!}$$



Pascal's Triangle



Pascal's Triangle

$$\binom{n}{r}$$

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Numerical Values

