0.1 Beta function

The beta function expand the binomial coefficient formula to the real (and complex) numbers.

We want to expand the binomial coefficient function.

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

We do this as:

$B(x,y) = \frac{\Gamma(x)\Gamma(y)}{\Gamma(x+y)}$