1 Random Graph

1.1 Properties

1.1.1 Degree Distribution

$$P(k) = \binom{N-1}{k} p^k (1-p)^{N-1-k}$$

1.1.2 Clustering Coefficient

$$C_i = \frac{e_i}{k_i(k_i-1)/2} = p\frac{k_i(k_i-1)/2}{k_i(k_i-1)/2} = p = \frac{< k >}{N}$$

1.1.3 Average Path Length

$$APL =< L > \simeq \frac{\ln N}{\ln k}$$