$$\Omega(N,V,E) = \sum_{\{n_i\}}{}' W\{n_i\} \qquad W\{n_i\} = \prod_i w_i$$

$$w_{BE} = \frac{(n_i + g_i - 1)!}{n_i!\,(g_i-1)!} \longrightarrow W_{BE} = \prod_i \frac{(n_i+g_i-1)!}{n_i!\,(g_i-1)!}$$

$$w_{FD} = \frac{g_i!}{n_i!\,(g_i-n_i)!} \longrightarrow W_{FD} = \prod_i \frac{g_i!}{n_i!\,(g_i-n_i)!}$$

$$w_{MB} = \frac{(g_i)^{n_i}}{\prod_i n_i!} \longrightarrow W_{MB} = \prod_i \frac{g_i^{n_i}}{n_i!}$$

$g_i = 5$ 

$n_i = 3$ 

$$S = k_B \ln\left\{\Omega(N,V,E) = \sum_{\{n_i\}}{}' W\{n_i\}\right\} \quad \left\{ \begin{array}{l} \sum_{\{n_i\}}{}' \prod_i \frac{(n_i+g_i-1)!}{n_i!\,(g_i-1)!} \\ \sum_{\{n_i\}}{}' \prod_i \frac{g_i!}{n_i!\,(g_i-n_i)!} \\ \sum_{\{n_i\}}{}' \prod_i \frac{g_i^{n_i}}{n_i!} \end{array} \right\} \cong S \approx k_B \ln W(n_i^*)$$

n_i^* ↑ massimo termine della serie