

Example  $m_1=1, m_2=2, m_3=1$

(19)

Perms of $1, 2, 2, 3$	Greater index
1, 2, 2, 3	0
1, 2, 3, 2	3
1, 3, 2, 2	2
2, 1, 2, 3	1
2, 1, 3, 2	4
2, 2, 1, 3	2
<del>2, 2, 3, 1</del>	<del>3</del>
2, 3, 1, 2	2
2, 3, 2, 1	5
3, 1, 2, 2	1
3, 2, 1, 2	3
3, 2, 2, 1	4

$$\text{ind}(1, 2, \underline{2}, 3; 0) = 1$$

$$\text{ind}(1, 2, \underline{2}, 3; 1) = 2$$

$$\text{ind}(1, 2, \underline{2}, 3; 2) = 3$$

$$\text{ind}(1, 2, \underline{2}, 3; 3) = 3$$

$$\text{ind}(1, 2, \underline{2}, 3; 4) = 2$$

$$\text{ind}(1, 2, \underline{2}, 3; 5) = 1.$$

Theorem  $\sum_{n \geq 0} \text{ind}(m_1, \dots, m_r; n) q^n = \left[ \begin{matrix} m_1 + \dots + m_r \\ m_1, m_2, \dots, m_r \end{matrix} \right].$

Cor.  $\text{inv}(m_1, m_2, \dots, m_r; n) = \text{ind}(m_1, m_2, \dots, m_r; n)$   
for all  $n$ .