

### Hint for Problem 176

For any partition of  $k$  into parts  $\lambda_1, \lambda_2$ , etc. we can get a partition of  $k$  into odd parts by factoring the highest power of two that we can from each  $\lambda_i$ , writing  $\lambda_i = \gamma_i \cdot 2^{k_i}$ . Why is  $\gamma_i$  odd? Now partition  $k$  into  $2^{k_1}$  parts of size  $\gamma_1, 2^{k_2}$  parts of size  $\gamma_2$ , etc. and you have a partition of  $k$  into odd parts.