C-3.17

For convenience assume that n is even. Then

$$\sum_{i=1}^{n} \log_2 i /geq \sum_{i=\frac{n}{2}+1}^{n} \log_2 \frac{n}{2} = \frac{n}{2} \log_2 \frac{n}{2} = \Omega(n \log n)$$