

**if**  $r - \ell > 0$  **then**

$$m = \lfloor \frac{\ell+r}{2} \rfloor$$

MERGESORT( $a[]$ ,  $\ell$ ,  $m$ )

MERGESORT( $a[]$ ,  $m + 1$ ,  $r$ )

**for**  $i = \ell$  **to**  $m$  **do**

$$b[i - \ell + 1] = a[i]$$

**for**  $j = m + 1$  **to**  $r$  **do**

$$c[j - m] = a[j]$$