## Vector rotation

Rotate a one-dimensional vector of $n$ elements left by $i$ positions. For instance, with $n=8$ and $i=3$, the vector $a b c d e f g h$ is rotated to defghabc. Simple code uses an $n$-element intermediate vector to do the job in $n$ steps. Can you rotate the vector in time proportional to $n$ using only a few dozen extra bytes of storage?

