CLRS 17-1

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a. Iteratively rev_k the n numbers in $\Theta(k)$, yielding $\Theta(nk)$.

b. Cf. INCREMENT(A); a similar amortized analysis applies.

```
BIT-REVERSED-INCREMENT(A, k)
1  i ← k − 1
2  while i ≥ 0 and A[i] = 0
3        do A[i] ← 1
4           i ← i + 1
5  if i ≥ 0
6     then A[i] ← 1
```

c. Thanks, Richard Borie;[1] the same amortized analysis still holds.

```
BIT-REVERSED-INCREMENT-SHIFT(A, k)
1  mask ← 2^(k−1)
2  count ← 0
3  while BITWISE-AND(A, mask)
4        do LEFT-SHIFT(A)
5           count ← count +1
6  x ← BITWISE-OR(x, mask)
7  while count > 0
8        do RIGHT-SHIFT(A)
9           count ← count −1
```

[1] `http://cs.ua.edu/601/fall2000/hw-soln.htm`