Algorithm 1 Insertion Sort(Non-increasing order)

```
1  for j = 2 to A.length
2      key = A[j];
3      i = j − 1;
4      while (j > 0 and A[i] < key)
5          A[i + 1] = A[i];
6          i − −;
7      A[i + 1] = key;
```

Algorithm 2 Linear search

Input: A sequence of n numbers A and a constant v

Output: Index i;

```
1  for i = 1 to A.length
2      if A[i] == v
3          return i;
4  retunr NIL;
```

Algorithm 3 Binary adding algorithm

Input: A sequence of n numbers A and a sequence of n numbers B

Output: A sequence of $n+1$ numbers $C = [c_1, c_2, ..., c_{n+1}]$;

1 **for** $i = 1$ **to** n

2 $\quad C[i] = (A[i] + B[i] + carry)\%2$;

3 $\quad carry = (A[i] + B[i] + carry)/2$

4 $C[i+1] = carry$;