```python
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
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"""


def insert_sort(A):
    """ сортировка списка А вставками"""
    N = len(A)
    for top in range(1, N):
        k = top
        while k > 0 and A[k-1] > A[k]:
            A[k], A[k-1] = A[k-1], A[k]
            k = k - 1

def choise_sort(A):
    """"сортировка списка А выбором"""
    N = len(A)
    for pos in range(0, N-1):
        for k in range(pos +1, N):
            if A[k] < A[pos]:
                A[k], A[pos] = A[pos], A[k]

def bubble_sort(A):
    """"сортировка списка А методом пузырька"""
    N = len(A)
    for bypass in range(1, N):
        for k in range(0, N - bypass):
            if A[k] > A[k+1]:
                A[k], A[k+1] = A[k+1], A[k]


def test_sort(sort_algorithm):
    print('тестируем: ', sort_algorithm.__doc__)
    print('testcase #1: ', end='')
    A = [4, 2, 5, 1, 3]
    A_sorted = [1, 2, 3, 4, 5]
    sort_algorithm(A)
    print('ok' if A == A_sorted else 'fail')

    print('testcase #2: ', end='')
    A = list(range(10, 20)) + list(range(0, 10))
    A_sorted = list(range(20))
    sort_algorithm(A)
    print('ok' if A == A_sorted else 'fail')

    print('testcase #3: ', end='')
    A = [4, 2, 4, 2, 1]
    A_sorted = [1, 2, 2, 4, 4]
    sort_algorithm(A)
    print('ok' if A == A_sorted else 'fail')

if __name__ == "__main__":

    test_sort(insert_sort)
    test_sort(choise_sort)
    test_sort(bubble_sort)
```