

Sprawozdanie z Laboratorium 13

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1. Faza czerwona

```
1 from app import bubble_sort
2 import pytest
3
4 testdata = [
5     ([1,4,5,2,3,6],[1,2,3,4,5,6]),
6     ([9,4,2,6,2,1,3],[1,2,2,3,4,6,9])
7 ]
8
9 @pytest.mark.parametrize('lst, sorted', testdata)
10 def test_bubble_sort(lst, sorted):
11     assert bubble_sort(lst) == sorted
12
13
```

2. Faza zielona

```
from typing import List

def bubble_sort(lst: List[int]):
    l = len(lst)
    for i in range(l):
        for j in range(l-i-1):
            if lst[j] > lst[j+1]:
                x = lst[j]
                lst[j] = lst[j+1]
                lst[j+1] = x
    return lst
```

2/2 tests passed (100%)

```
✓ ✓ Lab_13
  ✓ ✓ test
    ✓ ✓ test_app.py
      > ✓ test_bubble_sort
```

3. Faza Refactor

```
1  from typing import List
2
3  def bubble_sort(lst: List[int]):
4
5      for i in range(len(lst)):
6          for j in range(len(lst)-i-1):
7              if lst[j] > lst[j+1]:
8                  lst[j], lst[j+1] = lst[j+1], lst[j]
9      return lst
10
```

2/2 tests passed (100%)

- ✓ ✓ Lab_13
 - ✓ ✓ test
 - ✓ ✓ test_app.py
 - > ✓ test_bubble_sort