

Lab: Decorators

Problems for in-class lab for the [Python OOP Course @SoftUni](#).

Submit your solutions in the SoftUni judge system at <https://judge.softuni.org/Contests/1946/Decorators-Lab>.

1. Number Increment

Having the following code:

```
def number_increment(numbers):  
  
    def increase():  
  
        # TODO: Implement  
  
    return increase()
```

Complete the code, so it works as expected.

Examples

| Test Code | Output |
|---|------------------------|
| <code>print(number_increment([1, 2, 3]))</code> | <code>[2, 3, 4]</code> |

2. Vowel Filter

Having the following code:

```
def vowel_filter(function):  
  
    def wrapper():  
  
        # TODO: Implement  
  
    return wrapper
```

Complete the code, so it works as expected:

Examples

| Test Code | Output |
|--|-------------------------|
| <code>@vowel_filter def get_letters(): return ["a", "b", "c", "d", "e"] print(get_letters())</code> | <code>["a", "e"]</code> |

3. Even Numbers

Having the following code:

```
def even_numbers(function):  
  
    def wrapper(numbers):  
  
        # TODO: Implement  
  
    return wrapper
```

Complete the code, so it works as expected.

Examples

| Test Code | Output |
|---|--------|
| @even_numbers def get_numbers(numbers): return numbers print(get_numbers([1, 2, 3, 4, 5])) | [2, 4] |

4. Multiply

Having the following code:

```
def multiply(times):  
  
    def decorator(function):  
  
        # TODO: Implement  
  
    return decorator
```

Complete the code, so it works as expected.

Examples

| Test Code | Output | Comment |
|---|--------|---|
| @multiply(3) def add_ten(number): return number + 10 print(add_ten(3)) | 39 | First, we add 3 to 10 = 13, and then we multiply the result by 3: 13 * 3 = 39 |
| @multiply(5) def add_ten(number): return number + 10 print(add_ten(6)) | 80 | (6 + 10) * 5 = 80 |