# Lab: Decorators

Problems for in-class lab for the [Python OOP Course @SoftUni](https://softuni.bg/courses/python-oop). Submit your solutions in the SoftUni judge system at <https://judge.softuni.bg/Contests/1946>

## Number Increment

You will be provided with 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** |
| print(number\_increment([1, 2, 3])) | [2, 3, 4] |

## Vowel Filter

You will be provided with 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** |
| @vowel\_filter  def get\_letters():  return ["a", "b", "c", "d", "e"]  print(get\_letters()) | ["a", "e"] |

## Even Numbers

You are given 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] |

## Multiply

You are given 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 |