

Exercises - Lab 1

Try the following in lab, or on your own.

1. Write a function which calculates the area of rectangle. Consider the number of arguments needed, and what they should be named.
2. Write a function which calculates the area of a square, but do so using your previous function from question 1. Calculating the area of a square is pretty simple. Why would one want to write a function for it then, rather than just write it in their code directly?
3. What are x and y after this code is executed?

```
>> x = 8
```

```
>> y = x + 1
```

```
>> x = (y + 2*x) // 6
```

```
>> y = -(y+1)
```

```
>> y = x/y
```

4. Write a function which calculates the positive root of a quadratic (of the traditional form $ax^2+bx+c=0$). Does your function work for all possible parameters? What issue could cause a problem?
5. Using only the material seen so far, write a function which returns the absolute value of a float. For example, if you give your function "5.0" it should return 5.0, if you give your function "-18.0" it should return 18.0. Do not use "if statements" or built in Python functions. Note: this one is a bit tricky, but give it a shot.

6. There are three variables: a, b, and c. Write code to rotate/shift the variables so that a's value is stored in b, b's value is stored in c, and c's value is stored in a.

An Example (On the Python interpreter):

```
>>> # Original Values
>>> a
5
>>> b
10
>>> c
15
>>> # Your code will execute
>>> # .
>>> # .
>>> # .
>>> # New values after your code has been executed:
>>> a
15
>>> b
5
>>> c
10
```

7. Write a Python function called greet that takes one parameter, containing the name of a person, and behaves as follows (on IDLE):

```
>>> greet('Ilir')
Greetings, Ilir
How about a nice game of chess?
>>> greet('Vincent')
Greetings, Vincent
How about a nice game of chess?
>>> print(greet('Ilir'))
Greetings, Ilir
How about a nice game of chess?
None
```

>>>

#pin