

CS 110 A – Creative Problem Solving  
in Computer Science  
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Homework 3

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This homework is about if-elif-else and for-loops in Python.

## Exercises

1. (20 points) Write a Python function that given a Lab name: LabA, LabB or LabC, returns the name of the TA in charge of that Lab, and it reports an error if the string provided does not correspond with a Lab name.

**Test Cases:**

```
>>> whoistheTA('LabA')
'Yifan Wang'
>>> whoistheTA('LabB')
'Kaitlynn Prescott'
>>> whoistheTA('LabC')
'Cassidy O'Hearn'
>>> whoistheTA('LabCS110')
'That's not a valid Lab'
>>>
```

2. (30 points) Write a Python function `howMany(s,t)` that given two strings `s` and `t` it returns how many times `s` occurs in `t`, and an error message if `s` is the empty string.

**Test Cases:**

```
>>> howMany('abc', 'aabcabcabc')
2
>>> howMany('abc', 'xyz')
0
>>> howMany('abc', '')
```

```
0
>>> howMany('', 'abc')
's cannot be empty'
```

3. (50 points) Write a function `x_count(x, lst)` that returns the number of `x`'s in `lst`.

**Test Cases:**

```
>>> x_count("a", ["a", 3, 4, 66, "b", "a"])
2
>>> x_count("b", ["a", 3, 4, 66, "b", "a"])
1
>>> x_count(27, ["a", 3, 4, 66, "b", "a"])
0
>>> x_count("a", [])
0
>>>
```

- (a) (25 of 50 points) Write a solution to this problem using `map` and `reduce`.
- (b) (25 of 50 points) Write a solution to this problem using a `for-loop`.

**Grading rubric:** *Passing the tests cases 50%, correct solution 50%. If the problem indicates that you have to use a specific function or programming construct such as `map`, `reduce`, or `for-loops`, solutions that are not compliant will earn no points.*