

# Instructions

This exam should be of equal difficulty if not harder than the exam you'll be taking on Thursday. You are welcome to use your notes as well as the internet to answer these questions but I encourage you not to do so as you will not have access to these resources during the real exam.

To receive the answer key to this exam you must either attend at least one SI session before the exam or you may email me your attempt and I'll send you the answer key.

I **will NOT** be posting this answer key online but you are welcome to share it with your peers, just remember that if you only look at the answer key, you really aren't studying and your grade will likely reflect that. Also, feel free to email me or ask me during SI, questions regarding specific questions on this practice exam.

---

The following section is a Free Response section. Each question will either ask you to evaluate some code and report what a variable is bound to or how to refactor the given code or you will be asked to create a function of your own.

Assume that all code snippets in the following sections are written correctly and produce no syntax errors.

## Question 1

```
def someFunc(aList):  
    x = len(aList)  
    select = aList[x - 1]  
    return select[0:]  
  
myList = ['cat', 'dog', 'fish']  
x = someFunc(myList)
```

What is x bound to?

What is the type of the thing x is bound to?

Is this thing mutable?

## Question 2

```
def checkMiddle(aList , word):  
    if len(aList) % 2 == 0:  
        return None  
    mid = len(aList) // 2  
    if aList[mid] == word:  
        return True  
    else:  
        return False  
  
myList = [ 'cat' , 'dog' , 'fish' , 'horse' , 'cow' ]  
theWord = 'fish'  
x = checkMiddle(myList , theWord)
```

What is x bound to?

What is the type of the thing x is bound to?

Is this thing mutable?

## 2.5

Use the code from question 2 to answer the following.  
If the following changes to the file are made:

```
myList = [ 'cat ', 'dog ', 'fish ', 'horse ', 'cow ' ]  
theWord = 'FisH '  
x = checkMiddle(myList, theWord)
```

What is x bound to?

If x is False, what could we add to our code if we don't care how a string is formatted, only that it contains the same number of characters and the same characters in the same positions

EX) Fish = FISH = fISh = fisH... and so on

### Question 3

Create a function that removes all vowels from a given string and returns the new "devoweled" string

#### 3.5

Add a way for your function to also return all vowels it removed, along with the new "devoweled" string.

HINT: You'll want some kind of collection to do this.

#### Question 4

Create a function that takes in a string and returns the first letter, the first vowel and the last letter.

EX:

```
myFunc('first') —> 'fit'  
myFunc('sentence') —> 'see'  
myFunc('computer') —> 'cor'
```

NOTE: If the given string is 3 letters or less, just return the same string

HINT: You will need to use the `str.find()` method.

This method expects 1 argument that represents the substring to search for. The method returns an integer that represents the index at which the substring begins. If the substring is not found, then the method returns -1.