

## Lab 6 Feedback

- Need Comments!
  - Harder problems
  - Code for solutions aren't obvious
  - Reminders for yourself when you're reviewing the solutions for exam
- Use constants as appropriate
  - Type of character in password
  - ASCII codes
- Stricter about naming, efficiency

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1

## Which Loop to Use?

- Prob 2: Reversing String

```
for index in xrange(len(userString)-1,-1,-1):
    backwardsString += userString[index]
```

vs.

```
for character in stringStart:
    stringEnd = character + stringEnd
```

If you have a different solution, it's probably too complicated.

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2

## Palindrome

- Keep it simple
  - Remove spaces and lower case original word before reversing
    - Don't have to do operations twice
- More efficient solution

```
def isPalindrome(phrase):
    for i in xrange(len(phrase)/2):
        if phrase[i] != phrase[-i-1]:
            return False
    return True
```

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3

## Generating a Random Password

```
NUM=0
LOWER=1
UPPER=2
```

Define outside  
of for loop

```
password=""
len_password= randint(6,8)
```

Good variable names

```
for letter in xrange(len_password):
    #determines if character is number, uppercase, or lowercase
    char_type = randint(0,2)
    #for each case, randomly assigns character from ASCII
    if char_type == NUM:
        number= randint(48,57)
        passwordch=chr(number)
    elif char_type == LOWER:
        lletter= randint(97,122)
        passwordch=chr(lletter)
    elif char_type == UPPER:
        uletter= randint(65,90)
        passwordch=chr(uletter)
    password+=passwordch
```

Even better to use  
constants for ASCII  
values.  
(I'm short on space)

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4

## Caesar Cipher

- Needs comments explaining wrapping

```
HIGHEST_ASCII = ord('z')
LOWEST_ASCII = ord('a')
NUM_LETTERS = 26

coded_text = ""
for char in text:
    if char != ' ':
        ascii = ord(char) + key
        if ascii > HIGHEST_ASCII:
            ascii = ascii - NUM_LETTERS
        elif ascii < LOWEST_ASCII:
            ascii = ascii + NUM_LETTERS
        new_char = chr(ascii)
    else:
        new_char = char
    coded_text += new_char
```

No unexplained  
numbers in code.

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5

## Fines

- Make sure *return* correct output
- Make sure you add a comment

```
# precondition: ???
# postcondition: ???
def fine(speedlimit, clockspeed):
```

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6

## Review: Functions and Modules

- What is a module?
  - What is it used for?
- How do you create a new module?

## Review: Files

- How do you create a file?
- Whenever you open a file (i.e., construct a file), what should you always remember to do?
- How can we read from a file?
- What data types are read/written in files by default?
- How do we handle numeric data?

## Lab 7 Overview

Lab Maintenance: 7 p.m.

- Focus: program organization
  - Defining and Using Functions
    - Will need to correct Caesar cipher solution, if lab 6 wrong
  - Creating and using your own module
- Basic problems:
  - Reading data from file
  - Processing the data
    - Handling numeric data