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

Generating a Random Password

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

password=""
len_password= randint(6,8)
for char_type 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)
        password+= chr(number)
    elif char_type == LOWER:
        letter= randint(97,122)
        password+= chr(letter)
    else:
        letter= randint(65,90)
        password+= chr(letter)

Even better to use constants for ASCII values.
```

Caesar Cipher

- Needs comments, explaining wrapping
  ```python
  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:
              new_char = chr((ascii - NUM_LETTERS)
          elif ascii < LOWEST_ASCII:
              new_char = chr((ascii + NUM_LETTERS)
          else:
              new_char = chr(ascii)
      else:
          new_char = char
  coded_text += new_char
  ```

  No unexplained numbers in code.

Function comments

- String Iteration
  ```python
  # displays table column headings
  def printHeaders():
      ""
  Good. Describes function at high level
  ```

  # defines the printHeader function
  def printHeaders():
      ""
  Not descriptive. Says what you’re doing, not what function does

Palindromes

- Bare bones: no extras
  ```python
  def main():
      userPhrase = raw_input("Enter the string")
      if isPalindrome(userPhrase):
          print userPhrase, "is a palindrome"
      else:
          print userPhrase, "is not a palindrome"

  # Takes as input a string phrase
  # Returns True iff phrase is a palindrome
  # (without spaces and ignoring case)
  def isPalindrome(phrase):
      Comment does not say where parameter came from
      phrase = phrase.lower()
      phrase = phrase.replace(" ", ")
      for x in xrange(len(phrase)/2):
          if phrase[x] != phrase[-x-1]:
              return False
      return True
  ```

Exam

- Focus on material after first exam
- More focus on reading and understanding code
- When writing code, don’t need comments or constants unless
  - explicitly asked or
  - it helps you or it helps me understand what you’re trying to do
- Reminders:
  - Concise answers
  - Budget time to complete writing code
- No lists (updated exam prep document online)
Lab 7 Overview

• Focus: program organization
  ➢ Defining and Using Functions
    • Will need to correct palindrome and 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