**Lab 8 - More Strings**

**Content:** if-elif-else, while, strings, string slicing, string methods.

**1.** It is possible to combine string methods in one expression. Given the expression s=

"CAT" , what is s.upper().lower() ? – It runs each of these in order, so the output is “CAT”->”CAT”->”cat”

**2.** Using the input command, prompt for input and then convert the input to lowercase.

s = input("Input a string:")  
print(s.lower())

**3.** Experiment with the count method. What does it count? For example,

some string = "Hello world!"

some string.count("o")

**4.** Experiment with the strip method. What does it do? For example,

some string = "Hi!......"

some string.strip(".!")

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**5.** (a) Suppose you want to print a line full of'#' characters. For simplicity, let’s say that a

line can have only 80 characters. One way is to create a long string to be printed. How

would you do it more elegantly in Python using the plus operation (+) of strings?

hash = ''  
hash\_number = int(input("How many # symbols do you want?: "))  
  
for x in range(0,hash\_number):  
 hash += '#'  
  
print(hash)

(b) Suppose you want to print a column full of '#' characters. For simplicity, let’s

say that a column could have only 30 characters. Similar to (a), how would you do

it more elegantly in Python using the multiply operation (\*) of strings? Hint: Use

the newline character (‘\n’).

hash = ''  
# hash\_number = int(input("How many # symbols do you want?: "))  
  
for x in range(0,30):  
 hash += '#\n'  
  
print(hash)

**6.** Suppose you have a string ab\_string = 'abababababababab' . Write an

expression to remove all the b’s and create a string a string = 'aaaaaaaa' .

ab\_string = 'abababababababab'  
a\_string = ab\_string.replace("b","")  
# print(a\_string)  
print(a\_string)

**7.** Although Python’s formatted printing can be cumbersome, it can often drastically

improve the readability of output. Try creating a table out of the following values:

Melting and Boiling Points of Alkanes

Name Melting Point (deg C) Boiling Point (deg C)

Methane -162 -183

Ethane -89 -172

Propane -42 -188

Butane -0.5 -135

**8.** Write a Python program that will swap two random letters in a string.

Hint: Random letters means “letters with random index”

random.randint(x,y) will return a random number in the range from x to y inclusive.

You need to import random at the top of your program. You’ll also need to use slicing

– splitting your string into substrings.

**9. Pig Latin**

Pig Latin is a game of alterations played on words. To make the Pig Latin form of an

English word the initial consonant sound is transposed to the end of the word and an

“ay” is affixed. Specifically there are two rules:

(a) If a word begins with a vowel, append “yay” to the end of the word.

(b) If a word begins with a consonant, remove all the consonants from the beginning

up to the first vowel and append them to the end of the word. Finally, append “ay”

to the end of the word.

For example:

* dog ⇒ ogday
* scratch ⇒ atchscray
* is ⇒ isyay
* apple ⇒ appleyay

Write a program that repeatedly prompts for an English word to translate into Pig

Latin and prints the translated word. If the user enters a period, halt the program.

Hints:

* Slicing is your friend: it can pick off the first character for checking, and you can slice

off pieces and concatenate to yield the new word.

* Making a string of vowels allows use of the **in** operator: vowels = ' aeiou' .