

CS 0011 SEC 1020

Prof Matt de Lima Barbosa

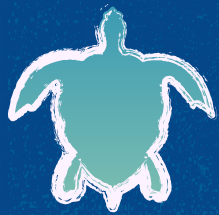
Lab TA: Katelyn Morrison

New Project

- Cryptography
 - Making a Vigenère cipher
- Lab 1 task

Tommy the Turtle

Key = wa



bubble

6 characters

Adjust key

wawawa

6 characters

Lab 1 - Part 1

- Functions
 - *adjusted_key(text, key)*
 - *encrypt_vigenere()*

Lab 1 - Part 1

- ***encrypt_vigenere()***
 - Ask for user to provide ***text***
 - Ask for user to provide ***key***
 - Convert both to lowercase
 - Use ***.lower()***
 - Example:
 - text => “PiTtSbUrGh”
 - text.lower() => “pittsburgh”

Lab 1 - Part 1

- *encrypt_vigenere()*
 - Call *adjusted_key(text, key)*
 - Perform shifting on *text* based on *adjusted_key* to get

Lab 1 - Part 1

- ***adjusted_key(text, key)***
 - ***Text*** is the string of text given from user
 - ***Key*** is string given from user
 - Based on number of letters in ***text***, create an adjusted key using ***key***
 - Return ***adjusted key***

Lab 1 - Part 1

- ***adjusted_key(text, key)***
 - Determine special characters
 - $\text{ord}('t') = 116$
 - $\text{ord}('a') = 97$
 - ASCII lower case letters between 97 and 122
 - For every character in ***text***, check if it is a valid ASCII lower case letter
 - ***adjusted_key** should be this length*

Lab 1 - Part 1

• Shifting

- ***Text*** = 'bubble'
- ***Key*** = 'wa'
- ***Adjusted Key*** = 'wawawa'
- ***Shift for w*** = 22
- ***Shift for a*** = 0
 - 1 ('b') + 22 ('w') = 23 ('x')
- ***Encrypted text*** = xuxbhe

a	0	m	12
b	1	n	13
c	2	o	14
d	3	p	15
e	4	q	16
f	5	r	17
g	6	s	18
h	7	t	19
i	8	u	20
j	9	v	21
k	10	w	22
l	11	x	23
		y	24
		z	25