CS 0011 SEC 1020

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Lab 2

- Cryptography
  - Making a Vigenère cipher
- Lab 2 tasks:
  - Decrypting Text
  - Reading from a file
  - Writing to a file

Lab 2 - Part 1

- Functions
  - *decrypt_vigenere( )*
- Tasks
  - Reading/Writing to files

Lab 2 - Part 1

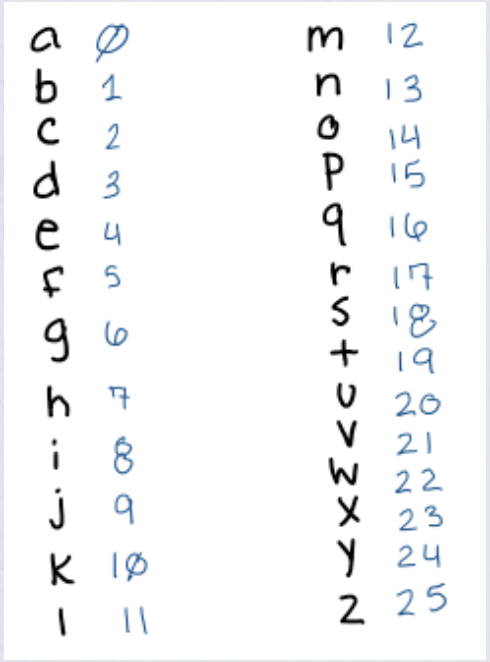
- ***decrypt_vigenere( )***
  - Ask for user to provide ***text***
  - Ask for user to provide ***key***
  - Convert both to lowercase
    - Use ***.lower( )***
  - Example:
    - text => “PiTtSbUrGh”
    - text.lower( ) => “pittsburgh”

Lab 2 - Part 1

- ***decrypt_vigenere( )***
  - Call ***adjusted_key(text, key)***
  - Perform shifting on ***text*** based on ***adjusted_key*** to get
    - You should already have completed ***adjusted_key***

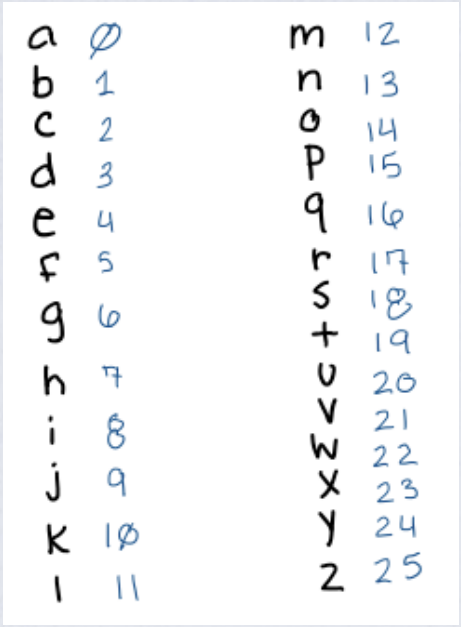
Lab 2 - Part 1

- **Shifting Part 1: Encryption**
  - ***Text*** = ‘bubble!’
  - ***Key*** = ‘wa’
  - ***Adjusted Key*** = ‘wawawa’
  - *Shift for **w** = **22***
  - *Shift for **b** = 1*
    - 1 (‘b’) + 22 (‘w’) = 23
    - 23 % 26 = 23 (‘x’)
  - ***Encrypted text*** = xuxbhe!



Lab 2 - Part 1

- **Shifting Part 2: Decryption**
  - ***Encrypted Text*** = ‘xuxbhe!’
  - ***Key*** = ‘wa’
  - ***Adjusted Key*** = ‘wawawa’
  - *Shift for **w** = **22***
  - *Shift for **x** = **23***
    - 23 (‘x’) - 22 (‘w’) = 1
    - 1 + 26 = 27 -> 27 % 26 = 1 (‘b’)
  - ***Decrypted text*** = ‘bubble!’



Lab 2 - Part 2

- **Reading & Writing to Files**
  - Reading a file (refer to chapter 6)
    - open(*filename*) function
    - read( ) function
  - Writing to a file (refer to chapter 6)
    - open(*filename*, *access*)
    - write( ) function
  - Close your files! *use close( ) function