CRITERION B

Input table:

Input	Data Type	Normal Range	Example
Website	String	A string of characters	"Amazon"
Username	String	A string of characters and/or numbers	"user@gmail.com"
Password	String	A string of characters and/or numbers	"hello"
Number of letters	Integer	0-10	3
Number of numbers	Integer	0-10	6
Number of characters	Integer	0-10	9

Output table:

Output	Data Type	Normal Range	Example
Error message	String	A string of characters	"Username field is empty"
Randomly generated password	List containing string	0-30 characters	['U', '7', 'p', '8', '6', '#']
Searched password	String	A string of characters and/or numbers	"coconuts123"
Confirm account information	String	A string of characters and/or numbers	'username': test_username 'password': test_password

Algorithm Outline:

Building GUI

- From tkinter import
- Create buttons that allow user to input account information

Encrypting passwords

- Import bycrypt
- From getpass import getpass
- Ask user for master key, which unlocks all passwords

Inputting account information

- User inputs the website that they are logging password on for
- User inputs username for account
- User inputs password for account
- Append website, username, and password
- Output result with write function

- Ask if user would like to enter another password
    - If yes, press enter to repeat past 4 steps
    - If no, type out ‘done’ to proceed

Random password generator

- Import random
- Import string
- Store all characters and symbols in a list

- Initialize an empty list to store the password
- User inputs the desired length of password
    - Write a loop that iterates length times
        - Pick a random character from all the characters using the random.choice method.
        - Append the random character to the password
    - If user does not input a number, print ‘error’ and restart code
- Print randomly generated password

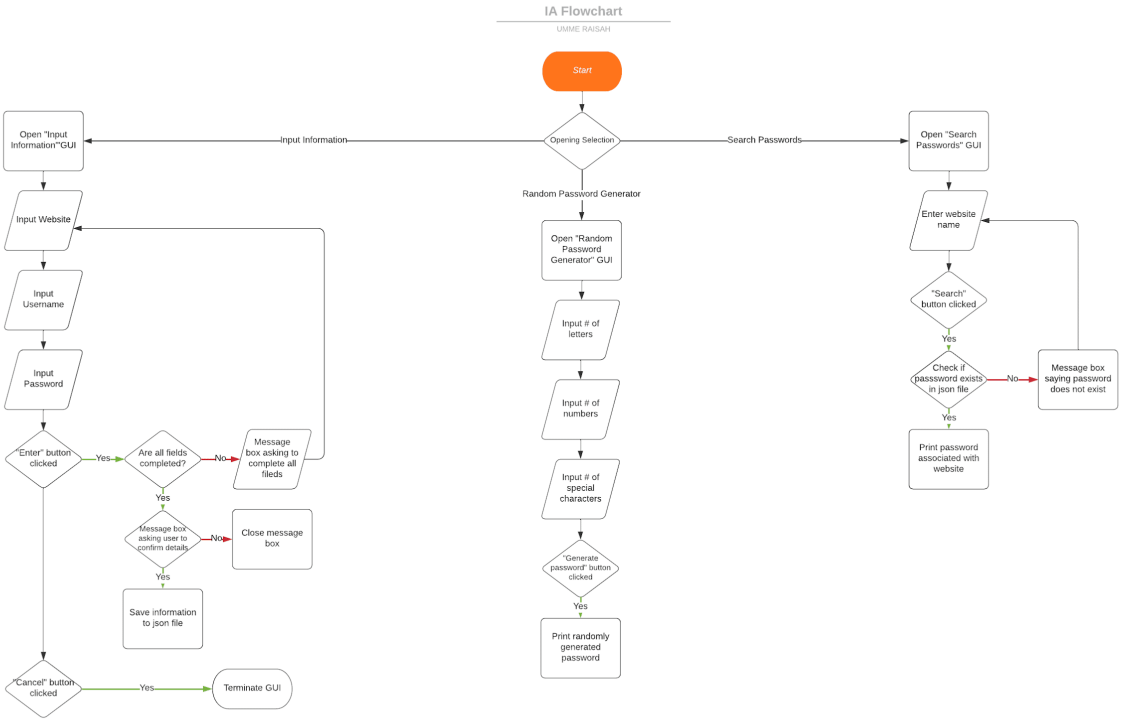
Search for passwords

- While loop to search for function
    - If yes, return account and password information
    - If no, print ‘Password not found’

Exporting to excel sheet

- Export data into csv file

Flowchart:


IA Flowchart
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Start
Opening Selection
Input Information
Search Passwords
Random Password Generator
Open "Input Information"GUI
Input Website
Input Username
Input Password
"Enter" button clicked
Yes
Are all fields completed?
No
Message box asking to complete all fileds
Yes
Message box asking user to confirm details
No
Close message box
Yes
Save information to json file
"Cancel" button clicked
Yes
Terminate GUI
Open "Random Password Generator" GUI
Input # of letters
Input # of numbers
Input # of special characters
"Generate password" button clicked
Yes
Print randomly generated password
Open "Search Passwords" GUI
Enter website name
"Search" button clicked
Yes
Check if passsword exists in json file
No
Message box saying password does not exist
Yes
Print password associated with website