SOMAIYA VIDYAVIHAR UNIVERSITY
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PYTHON MINI PROJECT

Group-12 : IT-H

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PROBLEM STATEMENT

- Program to a generate a random password of the desired length for the user.
- The password comprises of alphabets, digits and special characters selected at random.
- The user is also displayed an option of choosing the type of strength of the password.
- The program also allows the user to reset choices if not satisfied with the generated password.
- User can then copy the generated password using copy button.

SYSTEM ARCHITECTURE

1. In order to fulfil the problem statement, we have made use of libraries such as tkinter, pyperclip, etc. to access certain features such as GUI applications, buttons and the copy command.
2. On running the code, the user is introduced to a new window of the random password generator.
3. The code has been programmed such that the user is asked to select the strength of the password to be generated.
4. The weak password option comprises of small case and capital case alphabets. The medium strength password comprises of small case and capital case alphabets along with numbers. The strong strength generated password comprises of small and capital case alphabets, numbers and special characters selected by the system at random.
5. The user is also provided with an option to copy the generated password for further use. Application of the same is possible due to the pyperclip library.
6. If the user resets the simulation, the length of the password is reset to the default length i.e., 8. The strength of the password needs to be reselected again.

FEATURES OF DESIGNED SYSTEM

- On executing the code, a tkinter window pops up which lets the user choose the strength & length of the password to be generated.
- The user is given three choices for the strength of the password i.e. weak, medium and strong which are in the form of radio buttons.
- Post which, the user can select the length of the password (between 8 to 18) with the help of a spin box with upward and downward arrows.
- After selecting all specifications, the user can click on the generate button which leads to the generation of a random password.
- The user can then click on the copy button and copy this password and use it further as per requirements.
- If the user is not satisfied or wants to change the specifications and generate a new password, they can use the reset button which resets the specifications and allows the user to start afresh.

FEATURES OF DESIGNED SYSTEM

- The Random Password Generator is made using various modules and libraries like Tkinter, String, Random, Pyperclip, etc.

- Tkinter : Tkinter is the standard and inbuilt Python GUI library that provides users an object-oriented interface to the Tk GUI toolkit & the most preferred GUI building interface by programmers due to its simplicity and ease of use.

- String: The String module contains some constants, utility function, and classes for string manipulation.

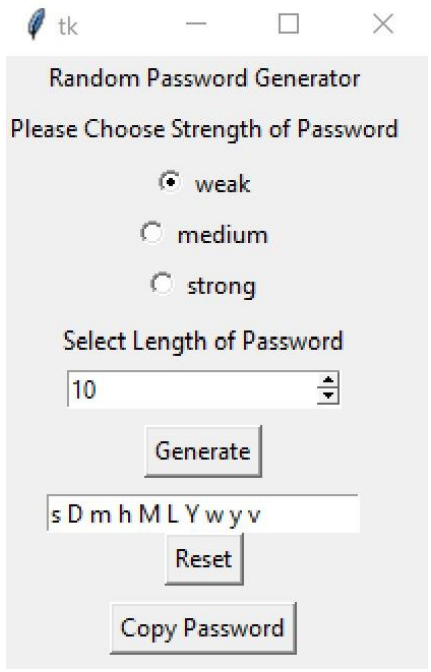
- Random: It is an in-built module of Python which is used to generate random numbers. These are pseudo-random numbers means these are not truly random. This module can be used to perform random actions such as generating random numbers, print random a value for a list or string, etc.

- Pyperclip: This module was created to enable cross-platform copy-pasting in Python which was earlier absent.

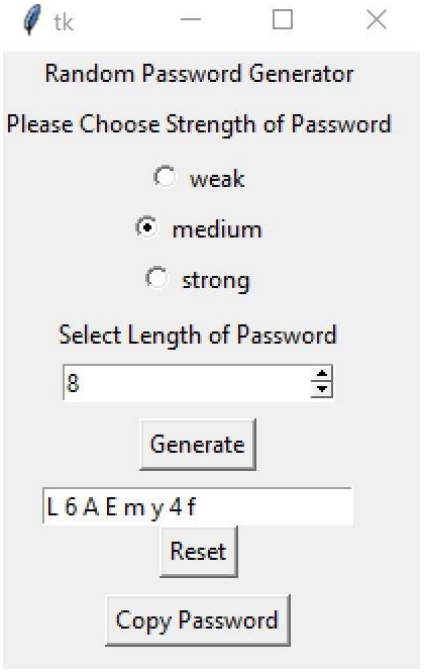
- Apart from this, our program is extremely user friendly and makes generating a random password whenever required very convenient.

RESULT/OUTPUT

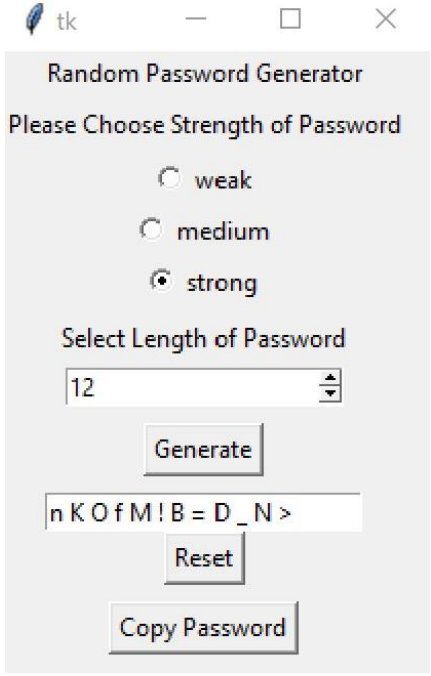
Weak password with length 10:



Medium password with length 8:



Strong password with length 12:



CONCLUSION

From this mini project, we learned about the use of various modules and libraries like Tkinter, String, Random, Pyperclip, etc. We are thankful for experiments conducted in our lab as we got a basic idea on writing a code for generating random password of the desired length for the user.

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REFERENCES

- Experiments 1 to 10.
- Python Tkinter Tutorial – GeeksforGeeks
- How to Create a Random Password Generator in Python (geekflare.com)
- https://m.youtube.com/watch?v=SwgBZ0BQNLQ
- https://m.youtube.com/watch?v=tycX5KOU__c