**PROBLEM STATEMENT**

MD5 message-digest algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. The MD5 algorithm is intended for digital signature applications, where a large file must be "compressed" in a secure manner before being encrypted with a private (secret) key under a public-key cryptosystem. Message Digest 5 is commonly used to create hash of passwords that is an encrypted form of password to be sent over network or stored in file system. It is an irreversible hashing algorithm. Large number of usernames and passwords are leaked daily in dark web by breaching different web applications. Still the passwords are safe due to hashing. We are going to break this and guess the password using this tool. If it’s a common password, then it will return otherwise it is a hard luck.

**PROCEDURE**

This tool is GUI Based and not CLI Based. We have use tkinter library to implement GUI in Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

Creating a GUI application using Tkinter is an easy task. All you need to do is perform the following steps −

* Import the Tkinter module.
* Create the GUI application main window.
* Add one or more of the above-mentioned widgets to the GUI application.
* Enter the main event loop to take action against each event triggered by the user.

Firstly, we have imported the tkinter module. We have declared a class GUI to bind the code. In constructor function we have written the code for the module. We have created main\_window variable for the GUI application main window. Then we have declared three variables top,mid and bot to set the frame for top,middle and bottom of the frame respectively.