## Project 1 User Manual

## 1. Executing the Program

## This file contains codes for a console-based simulation of a lock in which you can enter a 4-letter combination to trigger related action. The actions of the lock are unlocked and alarm. The lock can accept characters A, B, C, D, E, one at a time. A four-character sequence is needed to crack the lock.

## To run this Program, you will need copy of the executable program file, and two table file that are properly formatted.

## 2. Input Requirements and Restrictions

For the input of “**Enter a letter:**”, input must be one of ‘**A**’, ‘**B**’, ‘**C**’ ‘**D**’ or ‘**E**’, all other inputs are treated as invalid.

For the input of “**Try Again(N/Y)?**”, input must be one of ‘**n**’, ‘**N**’, ‘**y**’ or ‘**Y**’, all other inputs are treated as invalid.

## 3. Output

## 3.1 Loading Data

Once the program executes, it will automatically load and setup table files. If fail to open either or those files, user is given unlimited chances to enter a valid file path. For example, if cannot open the transition table file, the console will prompt user:Graphical user interface, text

Description automatically generated

**3.2 Main Menu**

If data is loaded successfully, the console will first print welcome messages, and ask user for letter input for the lock, the lock can accept letter **A, B, C, D, E**, one at a time.Text

Description automatically generated

**Error Checking for letter input:**

User is given unlimited chances to re-enter if the letter input is invalid.

For instance, if input is **O**, then the console will prompt user:

Text

Description automatically generated

If input is **ABCDEFGEHDVW**, then the console will prompt user:

Graphical user interface, text

Description automatically generated

**3.3 Trigger Lock Action:**

If the user enters a 4-letter combination that **doesn’t crack** the lock, user would be prompted:

**Text

Description automatically generated**

## If the user enters a 4-letter combination that cracks the lock, user would be prompted:Text Description automatically generated

**3.4 Re-crack:**

After a lock action is triggered, user is given unlimited chances to re-crack the lock.

If the input is ‘**n**’ or ‘**N**’, then this commends lead to farewell message and terminate the program:

Text

Description automatically generated

If the input is ‘**y**’ or “**Y**’, user is given a new round to crack the lock:Text

Description automatically generated

**Error Checking for re-crack input:**

All the other inputs are invalid, and user would be prompted:Text

Description automatically generated