**IT 6823 Assignment #2**

**Objective**

This assignment is based on the LM5. Determine the life of a password based on a list of assumptions.

**Instructions**

A computer system allows a user to choose a password with a length of one to eight characters. A system administrator needs to figure out how long a user’s password should expire.

Assume that 1 million passwords can be tested per second by a hacker. The hacker can guess a user’s password 24 hours a day and 7 days a week. A password should be expired if it has an equal or greater than 10% probability of having been guessed. Given each of the following condition, determine the time (in measurement of days) users’ passwords should be expired.

Probability of having been guessed = total number of guess/total possible combinations.

You may use Excel’s Power function to calculate mn. Make sure that you show your steps for partial credit.

Please calculate how long a password should be expired (round it to days) for each of the following password selection scenarios.

1. Scenario 1. Password characters may be any ASCII characters from 1 to 127, inclusive.
2. Scenario 2. Password characters may be any alphanumeric characters (“A” through “Z,” “a” through “z,” and “0” through “9”).
3. Scenario 3. Password characters can only be digits.

**Submission Guideline**

* Save the solution in MS Word file and name it as “Assignment 2\_xxxx.docx”, where xxxx is your KSU NetID.
* Submit the solution file to the corresponding assignment drop box by the deadline specified in D2L calendar.

**Grading Rubrics**

This assignment has 20 points in total.

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| **Exemplary**  **(18-20 points)** | **Adequate**  **(16 - 17 points)** | **Need Improvement (14 - 15 points)** | **Inadequate**  **(<=13 points)** |
| 1) The assignment is professionally formatted: divided in sections with appropriate titles. Free of spelling and grammar errors.  2) Include solutions for all three scenarios.  3) the password expiration calculation is correct with steps for each scenario. | 1) The assignment is professionally formatted: divided in sections with appropriate titles. A few spelling and grammar errors.  2) Include solutions for all three scenarios.  3) the password expiration calculation is not correct for at least one scenario. And correct steps are included. | 1) The assignment is formatted: divided in sections with appropriate titles. Several spelling and grammar errors.  2) Include solutions for two scenarios.  3) the password expiration calculation is not correct for two scenarios. And correct steps are included. | 1) The assignment is not well formatted. Many spelling and grammar errors.  2) Include solutions for one scenario or less.  3) the password expiration calculation is not correct for two scenarios. And steps are not included. |