EECS710: Information Security and Assurance

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Fall 2014

Assignment 3: Authentication and Password Size
Points: 20
Due: 9/19/2014

PART 1: A phonetic password generator picks two segments randomly for each six-letter password. The form of each segment is CVC (consonant, vowel, consonant), where $V = < a, e, i, o, u >$ and $C = \bar{V}$.

A. What is the total password population?

B. What is the probability of an adversary guessing a password correctly?

PART 2: Assume that passwords are selected from four-character combination of 26 alphabetic characters. Assume that an adversary is able to attempt passwords at a rate of one per second.

A. Assuming that no feedback to the adversary until each attempt has been completed, what is thee expected time to discover the correct password?

B. Assuming feedback to the adversary flagging an error as each incorrect character is entered, what is the expected time to discover the correct password?