CSCI262 Systems Security - Assignment 01

Date: 20.08.2018 | Author: Dinh Che (dbac496) | Student ID: 5721970 | Email: dbac496@uowmail.edu.au

Part One: Short answer questions:

1.

$$N = Tiger(26 \cdot 26 \cdot (10^2) \cdot 1 \cdot (52^2) \cdot (6^3))$$

$$Entropy = log_2 N$$

$$\therefore Entropy = log_2 Tiger(26 \cdot 26 \cdot (10^2) \cdot 1 \cdot (52^2) \cdot (6^3))$$

2.

3.

This kind of one-time password system is based on 'what the subject has' and is a form of token-based authentication. An example of this would be a smart card or app with a dynamic password generator as an authenticion protocol. The card or app acts as a token and would generate a unique one-time password (changed periodically, typically 60 seconds) which can be entered into a computer system for authentication. The card or app token and server must be initialized and kept synchronised.

4.

Statement	Subjects	Objects	Actions
Alice can climb trees and eat apples.	Alice	Trees and apples	Climb and eat
Bob can climb fences, eat apples, and wave flags.	Bob	Fences, apples, and flags	Climb, eat, and wave.
Trees can hurt apples.	Trees	Apples	Hurt
Carol can jump waves and wave flags.	Carol	Waves and flags	Jump and wave

Access Control Matrix

Action keys: Climb = C; Eat = E; Wave = W; Hurt = H; Jump = J

Subjects \ Objects	Apples	Fences	Flags	Trees	Waves
Alice	E			C	
Bob	E	C	W		
Carol			W		J
Trees	H				