Homework #9 Chapters 8-9 (7 points total)
Due: Friday, November 30th, in class

1. Using the simple hash algorithm discussed in class, find the encrypted forms of the following passwords:
   a. kernel
   b. python
   c. p3pp3p

2. The default passcode on a cell phone is sometimes 6 digits, each 0–9.
   a. How many different passcodes are possible?
   b. If you can enter a 6-digit passcode in 2 seconds (on average), about how long would it take you to try all possible passcodes?

3. A virus attacks a single user’s computer and within one hour embeds itself in 30 email attachment files sent out to other users. By the end of the hour, 10% of these have been opened and have infected their host machines. If this process continues, how many machines will be infected at the end of 6 hours? Can you find a formula for the number of machines infected after n hours? (2 points)

4. A certain individual has a Hilton account, a RitzCarlton account, and a Marriott International account. The following email message is sent to this individual. Point out clues (plural) that should alert this individual that he/she is a victim of a phishing attack.

   We here at Marriott appreciate your loyalty as a customer. We want to make things more easy for you when you travel, so we have partnered with Hilton and Ritz-Carlton to create a unified rewards program. Now when you stay at any of these fine brand hotels, you will earn award points that can apply to a future stay at any of the three hotels. For you we will quick set this up, just click on the link below to get started: www.Mariott.com

5. A messenger tells you that the secret key for today for the Caesar cipher is s=26. Should you trust the messenger? Why, or why not?

6. The centurion who was supposed to inform you of the secret key s was killed en route, but you have received the message Vord tfdzex jffe! in a Caesar cipher. Find the value of s and decode the message.