15110 Summer 2018
Problem Set 10

Name: _____

Andrew ID: _____

Instructions
1. Type or neatly write the answers to the following problems.
2. Save or scan this file as a pdf and submit to Gradescope

Exercises

3. (3 pts) Open a command line terminal on an Andrew machine and run the following commands. Describe in a sentence or two what you understand from the output of each command. You are not expected to understand every detail; try to extract the most useful information you can from the output. You are encouraged to use the Web as a resource. You can also use the `man` command to read the manual pages about a given Unix/Linux command. For example, `man who` would give you information about what `who` does and how to use it.

    Here's an example of the kind of answer we want (for the command `hostname`):
    `"hostname` gives the name of the computer you are using."

    a. host 128.2.205.30

    b. host www.facebook.com

    c. ping -c 5 www.facebook.com

    d. traceroute www.nytimes.com

e. wget www.facebook.com (*check your folder using command **ls** to see if there is a new file. what is it?*)

f. whois cmu.edu

4. (3 pts) Again, feel free to search the Web to help you answer these questions. Your answers should be just a sentence or two.

   a. How do you find the IP address of the computer you are using?

   b. What is the purpose of a router? Do routers typically "know" if they are handling an email or an image? Why or why not?

   c. Can one IP address correspond to more than one hostname? If so, show an example from the Internet.

5.   (4 pts) Answer the following questions based on your reading of Blown to Bits, in
     addition to your understanding of the lecture material.
        a.   Suppose someone came up with an algorithm that could factor any large integer in
             less than a few seconds. How would that affect e-commerce?

        b.   What is meant by "security through obscurity"? Do cryptographers adopt this as a
             principle? Why or why not?