

CSE 565 Fall 2018

Homework 7

Due on December 4, 2018, at 9:30am

1. Identify a suitable fuzzing tool for a system that you know (this can be one of the tools mentioned in the lectures). Run the tool you choose on a reasonably large program (e.g., an open source application), or a trace produced by it, perform testing, and report your findings. Also comment on the ease of using this tool.
2. Read the article “Reflections on Trusting Trust” by K. Thompson, *Communications of the ACM*, Vol. 27, No. 8, pp. 761–763, 1984 (available from www.buffalo.edu/~mblanton/cse565/rtt.pdf). Write your reaction and thoughts. Answer the following questions:
 - (a) What is the key to a program that, when executed, reproduces itself?
 - (b) How do the observations in the article relate to rootkits in operating system security?
3. Exercise 7.3 from the textbook.
4. Based on the discussion of firewall rules in class, write firewall packet filtering rules for a corporate network with IP addresses 219.33.*.*. The firewall should permit all outgoing connections, incoming connections to the web servers with IP addresses 219.33.12.2 and 219.33.3.4 for both HTTP and HTTPS, incoming connections to the email server with IP address 219.33.12.2, and incoming SSH connections to machines with IP addresses 219.33.49.12 and 219.33.3.8.