

# CSEC-S Introduction

FALL 2017

BY KC UDONSI

```
>$ finger
```

- ▶ Udonsi Kc
- ▶ 5<sup>th</sup> year CS Specialist (Co-op)
- ▶ Specializing in Penetration testing,  
Exploitation, Malware Analysis and Digital  
forensics

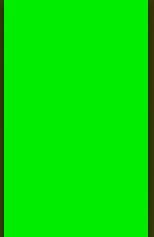
```
>$ help | less
```

- ▶ Computer Science Enrichment Club – Computer and Network Security Division
- ▶ Fridays 3pm - 5pm
- ▶ Focus 1: Practical knowledge of Computer and Network Security achieved by understanding and solving Capture the Flag challenges

- ▶ Capture the flag challenges are typically grouped into the following:
  - ▶ PWN (Exploitation)
  - ▶ Web Applications & Network
  - ▶ Reverse Engineering
  - ▶ Cryptography
  - ▶ Forensics Analysis
  - ▶ Miscellaneous
- ▶ Focus 2: General knowledge of Computer and Network Security

- ▶ Computer Ethics
- ▶ Secure Programming
- ▶ Understanding the attack life-cycle
- ▶ Understanding the vulnerability life cycle
- ▶ \*NIX OS secure practices
- ▶ Windows OS secure practices
- ▶ Required Text: Hacking; the art of exploitation 2<sup>nd</sup> Ed.
- ▶ Amazon:  
<https://www.amazon.ca/Hacking-Art-Exploitation-Jon-Erickson/dp/1593271441>

- ▶ Syllabus: [security.csec.club/syllabus](http://security.csec.club/syllabus)
- ▶ Resources:
  - ▶ Videos:
    - ▶ LiveOverflow YouTube channel
    - ▶ Open Security Training channel
  - ▶ Websites:
    - ▶ [www.liveoverflow.com](http://www.liveoverflow.com)
    - ▶ [www.opensecuritytraining.info/Training.html](http://www.opensecuritytraining.info/Training.html)
  - ▶ Challenge sites:
    - ▶ [www.exploit-exercises.com](http://www.exploit-exercises.com)
    - ▶ [www.overthewire.org](http://www.overthewire.org)
    - ▶ [ctftime.org](http://ctftime.org)



**BREAK!**

# Computer Ethics

- ▶ With great power comes great responsibility
- ▶ As Computer and Network Security professions (to be), it is important to understand the social implications of our actions
- ▶ Steven Levy described an acceptable list of ethics in his book 'Hackers: Heroes of the Computer Revolution'

# Ethical and Legal Behavior

- ▶ During the course of the club, you may learn skills that will be considered illegal outside controlled environment
- ▶ The fact that you learn these skills does not permit use of said skills without consent or controlled environment
- ▶ The availability of a vulnerability does not imply it should be exploited.
- ▶ Taken from CSCD27 Ethical and Legal Behavior

# Tools and installations required

- ▶ Windows OS users
  - ▶ Virtual box
  - ▶ Python 2.7
- ▶ MacOS users
  - ▶ Virtual box
- ▶ UNIX users
  - ▶ TBD

# Meeting format

- ▶ First hour
- ▶ Lesson hour. Any of:
  - ▶ Exploitation
  - ▶ Reverse Engineering
  - ▶ Cryptography
  - ▶ Web Application
  - ▶ Forensics

# Meeting format Cont.

- ▶ Second hour
- ▶ Challenge hour. Any of
  - ▶ Text book exercises
  - ▶ Watching and analyzing a solution video
  - ▶ Solving challenges from a challenge site
  - ▶ Reading and analyzing a solution write-up
  - ▶ Interactive session

# Getting started

- ▶ Hacking: The art of Exploitation 2<sup>nd</sup> Ed.
- ▶ Read Chapters 1 and 2
- ▶ Ask questions on slack
- ▶ The book CD is important. Helps to follow along the examples. You need it.
- ▶ Don't stress if you don't understand. That's why I am here

# Recap

- ▶ Get the book
- ▶ Signup
- ▶ Misuse of skills learned or shown is criminal and punishable under law
- ▶ The resources are there for you to work on your own
- ▶ Next week is reading week. No meeting.