Homework #5: RE

Assignment Details

This homework is due by Saturday, March 6th at **11:59 PM** ET. Remember there are no late submissions for the homework so please complete it by then.

While this assignment is structured a bit less like a write-up, don't just put the answers! Add a short explanation of why something is true, or how you came across it.

Please add the following header to your assignment:

> **Name:** {Firstname Lastname}
>
> **UID:** {Your UID}
>
> **Honor Pledge:** *I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.*

Assignment Goal: Apply the techniques and terminologies covered in Lecture #5 to apply basic reverse engineering techniques

Assignment Questions

1. Download the `supersecret.pdf` file from ELMS or here
    1. **(5 points)** Can you open this .pdf? If not, what does `file` tell you about `supersecret.pdf`?
2. Download the `cmsc388u_midterm_answers` from ELMS or here
    1. **(10 points)** Alden accidentally released the answers for the rapidly approaching midterm, can you find the **human readable** flag in the program?

3. **(50 points, 10 pts for each part)** Grab the `mystery_firmware.bin` file from ELMS or here
    1. **(10 points)** What are some things the `file` command tells you about this?
    2. **(5 points)** Using `binwalk` get the entropy graph of the file (and attach a screenshot)
        1. **(5 points)** Roughly, what does file entropy mean? How is this useful?
    3. Run `binwalk` with no options/flags other than the filename
        1. **(10 points)** How many files are present within this file?
    4. Extract ("carve") out the embedded files from the `.bin` with `binwalk`
        1. **(5 points)** Where is the root filesystem of the device?
        2. **(5 points)** Can you find the password hash for the device?
            1. Note: We will talk about "hashes" in a later lecture, however this link may guide you on the way for now
    5. Bonus: (No credit) If you're interested, check out this video :)

Scoring

This assignment is scored out of 75 points.

- Question 1: 5 points
- Question 2: 10 points
- Question 3: 50 points (10 points each part)
- Formatting: 10 points