secure Scripting (Python)

**Advanced scripting**

# Lab: Analyzing a spreadsheet

In this lab, you will analyze a spreadsheet of IP connections. The spreadsheet is the same one as was used in an exercise for Module 8, but it has been converted into .csv (comma-separated value) format. Each field of the row is separated by a comma in this format.

For this lab, you will need the following files:

* connect.csv

### Lab Exercise 1

The format of the "connect.csv" file is given on the slides. Please write a script that prints the date and time fields of each line of the file. The first line's fields should contain "DATE" and "TIME", respectively. Save the script as “ipconn1.py”.

Hint: You can adapt the *while* loop discuss on slides for this.

### Lab Exercise 2

Modify your script “ipconn1.py” from Lab Exercise 1 to add a field called "TIMESTAMP" between the TIME and DURATION fields. Populate this field with the result of converting the contents of the DATE and TIME fields for that line to the number of seconds since the epoch (the \*nix timestamp). Save the script as “ipconn2.py”; save the resulting output in a file named "connect-ts.csv".

Hint: The first line consists of the headings, so add the heading for this new field in the appropriate place.

### Lab Exercise 3

Write a script to print the first and last timestamp in the file "connect-ts.csv", followed by the difference in seconds between the two timestamps. Save the script as “ipconn3.pys”.

When you test the script, notice how hard it is to understand the large number of seconds as a meaningful duration of time. Modify the script so that it expresses the difference in the form “*hh*:*mm*:*ss*” where *hh*, *mm*, and *ss* are hours, minutes, and seconds respectively.

Hint: Use the program *expr* to divide by 60, then to divide the remainder by 60.

## what to submit

For the parts of the exercises that do not require you to write a script, put your answers in a PDF or text file numbered appropriately, and call that file “Unit3answers.pdf” or “Unit3answers.txt” respectively. For the parts of the exercises that do require scripts, create plain text files to hold your script, and name the file containing your script as indicated in the problem.