**ECE 1111: Engineering Computation I**

**Homework No. 13: Standard File Formats**

**Deposit your work in:**

/data/courses/ece\_1111/current/homework/hw\_13/<lastname\_firstname>

**Goal:** Introduce you to manipulating standard file formats in Python.

**Description:** As an introduction to this assignment, please review the following tutorials:

*https://www.geeksforgeeks.org/reading-excel-file-using-python/*

*https://realpython.com/python-wav-files/*

*https://www.geeksforgeeks.org/reading-images-in-python/*

For the four files found here:

*https://isip.piconepress.com/courses/temple/ece\_1111/resources/data/file\_formats*

write a program that reads the data, adds a constant value to each data point, and writes a new file of the same format. Your programs should use a simple interface:

*p01.py <constant> input\_file output\_file*

The four programs should be:

*p01.py*: reads and writes a .csv file or a .xlsx file and writes a file of the same format

*p02.py*: reads and writes a .wav file

*p03.py*: reads and writes a png file using the Python library Pil.

Note that you do not need to install any new packages to do these things. Everything you need is already installed on the server.

**Summary:** Python supports a wide range of standard file types used in science and engineering. These libraries make it very easy to import data into your program and manipulate it. These file formats are defined and managed by international standards organizations such as the IEEE, or by collections of open source developers.