**PYTHON WEEK 4 SUMMARY**

**Day 1 – Inheritance and Private Variables**

**Private Variables -** “Private” instance variables that cannot be accessed except from inside an object don’t exist in Python. However, there is a convention that is followed by most Python code: a name prefixed with an underscore (e.g. \_spam) should be treated as a non-public part of the API (whether it is a function, a method or a data member). It should be considered an implementation detail and subject to change without notice.

**Day 2 – Iterators, Generators, and more**

**Iterators –** An iterator is an object in Python that can be iterated (looped) over. It represents a stream of data and allows you to traverse through the elements of a collection, one at a time.

**Generators –** A generator is a special type of iterator that allows you to iterate over a potentially large set of data without creating he entire set in memory at once. It produces values on-the-fly using the `yield` keyword.

**Day 3 – Dates and Times, Data Compression, Output formatting, and more**

The datetime module supplies classes for manipulating dates and times in both simple and complex ways. While date and time arithmetic are supported, the focus of the implementation is on efficient member extraction for output formatting and manipulation. The module also supports objects that are time zone aware.

**Data Compression –** Data Compression is a process of reducing the size of data to save storage space or transmission time. Common data archiving and compression formats are directly supported by modules including: zlib, gzip, bz2, lzma, zipfile and tarfile.

**Output Formatting –** Output formatting in Python refers to the techniques used to control the appearance and structure of the output generated by a program. It involves manipulating the way data is presented to users or stored in files.

**Day 4 – Logging, managing packages with Pip, and floating point arithmetic edit**

**Logging –** The logging module offers a full featured and flexible logging system. At its simplest, log messages are sent to a file or to sys.stderr.

**Virtual environments –** A virtual environment in Python is a self-contained directory that houses a specific Python interpreter and its associated libraries, allowing developers to isolate and manage dependencies for different projects.

**Managing packages with pip -** You can install, upgrade, and remove packages using a program called pip. By default, pip will install packages from the Python Package Index, <https://pypi.org>.