**Week 7**

Chapter 5

1. Pandas was designed with a specific set of requirements including: data structures with labeled axes; integrated time series functionality; the same data structures handle both time series data and non-time series data; arithmetic operations and reductions; flexible handling of missing data; and merge and other relational operations found in databases like SQL.
2. Pandas data is held in either a series or in a data frame. These data structures support reindexing; dropping entries; indexing selection and filtering; arithmetic and data alignment; function application and mapping;sorting and ranking; and axis indexes with duplicate values.
3. Pandas objects are equipped with a set of common mathematical and statistical methods, mostly reduction and summary statistics. They also have numerous methods for filling in and managing missing data.

Chapter 6

1. Despite all of the tools that libraries like pandas provides for managing data, it is of little use if there are not good ways for importing and exporting data.
2. In general, data input and output falls into several categories: reading and writing from text files, reading and writing from more efficient sources like databases and other on disk formats, and reading from web APIs and other network sources.
3. There is a vast variety of formats that can be worked with using Python including JSON, HTML5, XML, binary data, HDF5, and SQL databases.