# DOCUMENTATION

This document describes the various modules and functions that have been utilized in completion of this assignment.

### IMPORTED LIBRARIES

* requests - It is used to request data from a server. The data is typically in the form of a file or a web page.
* logging - This module defines functions and classes which implement a flexible event logging system for applications and libraries.
* zipfile - This module provides tools to create, read, write, append, and list a ZIP file.
* pandas - Used for working with data sets. It has functions for analyzing, cleaning, exploring, and manipulating data.
* datetime - The datetime module supplies classes for manipulating dates and times.
* xml.etree.ElementTree - The xml.etree.ElementTree module implements a simple and efficient API for parsing and creating XML data.
* boto3 - This module is used to integrate your Python application, library, or script with AWS services.

### FUNCTIONS

* + **startLog() -**
    - Runs at the beginning of execution and logs the start time and a message for start of execution.
  + **endLog() -**
    - Runs after the execution is completed and logs a message for end of execution.
  + **termLog() -**
    - Runs when the program gets terminated without completing its run, possibly due to an exception.
  + **errorLog(** *e* **) -**
    - Runs when an error occurs during runtime. It logs the error and then the run is terminated.
    - Args:
      * e: the type of exception that was raised.
  + **dowloadFile(** *url, filename* **) -**
    - Downloads the file from a url and stores it on the device
    - Args:
      * url: string containing the url
      * filename: string containing the name that the file will be stored as
  + **findLink(** *filename* **) -** 
    - Parses the xml file and searches for a download link.
    - Args:
      * filename: name of the xml file to be parsed.
    - Returns:
      * zip\_url: the download link that was found.
  + **unzipFile(** *filename* **) -**
    - Unzips and extracts a zip file.
    - Args:
      * filename: name of the zip to be extracted.
  + **createDF(** *filename* **) -**
    - Parses the xml file and creates a DataFrame from it. Then, converts it and saves it on the device as a csv file.
    - Args:
      * filename: name of the file to be parsed.
  + **uploadToAWS(** *filepath, bucket, filename* **) –**
    - Uploads a file to an Amazon Web Services S3 bucket.
    - Args:
      * filepath: Path to the file to be uploaded**.**
      * bucket: Name of the S3 bucket where the file is to be uploaded.
      * filename: Name which will be assigned to the file in the bucket.