A1

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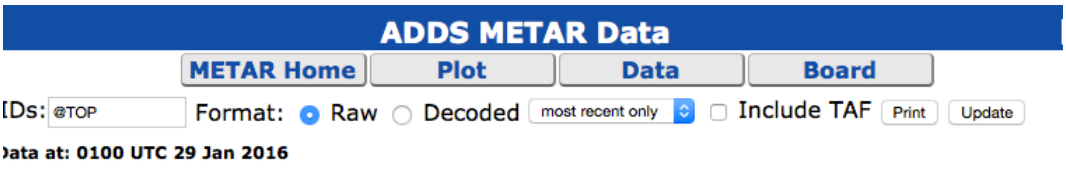
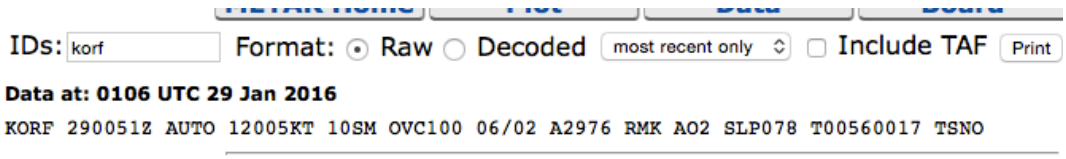
1 Curl Demonstration

For the curl assignment, I used the aviation digital weather service to acquire a METAR for Norfolk International Airport which has the ICAO Code: KORF. The following curl command was used:
curl -d “ids=korfformat=rawdata=0hors=0” “https://www.aviationweather.gov/metar/data” > resul.html

1.1 Form Before



1.2 Form After



The html file for the result of the curl command is located in the folder called curl

2 PDF Link Extractor

2.1 Libraries Used

- urllib2
- urllib
- urlparse
- sys
- httplib
- errno
- socket
- bs4

2.2 Compilation

- Not Needed

2.3 Running

- Torun, enter the command: python pdfLinks.py ¡url-name¿

Notes

2.3.1 This program was tested with the following links

- http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-088-introduction-to-c-memory-management-and-c-object-oriented-programming-january-iap-2010/lecture-notes/
- http://www.cs.toronto.edu/~suzanne/publications.html
- http://www.cs.odu.edu/~mln/teaching/cs532-s16/test/pdfs.html
- http://www.cs.odu.edu/~mln/
- http://www.macs.hw.ac.uk/~jim/112MH1/tuts/

If you would like a demonstration of the test cases, enter the command pythonpdfLinks.py -d
A captured output of the above test cases is located in the file called results.txt, which can be found in the pdfLinks folder.

2.3.2 Sources

- Exception handling in lines 42-45
  - url: http://stackoverflow.com/questions/20568216/python-handling-socket-error-errno-104-connection-reset-by-peer
  - Accessed: 1/28/15
- Exception handline for requests
  - url: http://stackoverflow.com/questions/666022/what-errors-exceptions-do-i-need-to-handle-with-urllib2-request-urlopen

  - Accessed: 1/24/15

- Handling link-redirections in line 62-77
  - url: http://www.zacwitte.com/resolving-http-redirects-in-python
  - Accessed: 1/28/15

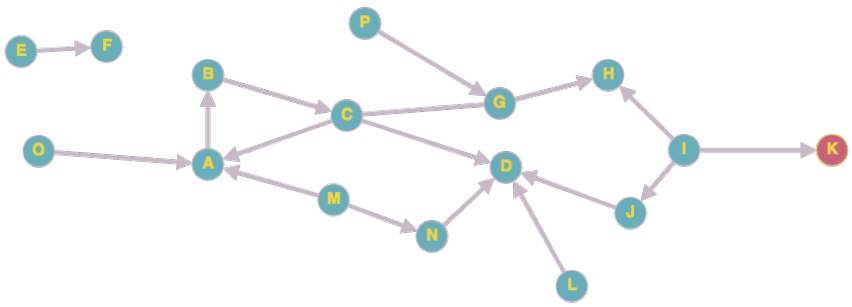
- Handling incomplete links in line 152-153
  - url: http://stackoverflow.com/questions/27397990/python-parsing-html-for-complete-links-urls
  - * Accessed: 1/28/15

3 Graph

The graph below was generated by creating an adjacency matrix as seen below.

```
0,1,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,1,0,0,0,0,0,0,0,0,0,0,0,0
1,0,0,1,0,0,1,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,0,0,0,1,0,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,1,0,0,0,1,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,1,0,1,1,0,0,0,0
0,0,0,1,0,0,0,0,0,0,0,0,0,0,0
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,0,1,0,0,0,0,0,0,0,0,0,0,0
1,0,0,0,0,0,0,0,0,0,0,0,1,0,0
0,0,0,1,0,0,0,0,0,0,0,0,0,0,0
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0
0,0,0,0,0,0,1,0,0,0,0,0,0,0,0
```

Once the matrix was created, the graph below was created from the following website: http://graphonline.ru/en/



3.1 Values for the Graph

The following vertexes make up the components of the graph.

- IN: O, P, L
- SCC: C
- OUT: K,H,G
- Tendrils: M
- Tubes: B,C,G,H
- Disconnected: E,I