**Group HW: Problem 1, New York Times RSS Feed**

RSS feeds are a popular way to keep track of news items, blog postings and so on. For this problem we’ll be working with the news feed from the following URL:

<http://feeds.nytimes.com/nyt/rss/World>

The root of the element of the RSS feed is called *RSS* which has a child element *CHANNEL* which has a number of children including the *ITEM* element. Each *ITEM* element has a number of child elements such as *TITLE, LINK, SOURCE, CATEGORY* and so on for each of the news item in the feed. This file is an example of a *namespaced* file. You can view the page source to see what the XML looks like.

Write a program that reads the content form the URL above using XML methods and prints out the following information:

a. (15 points) The title of the news item and its creator in the following format:

**Op-Ed Contributor: Gaza and Israel: The Road to War, Paved by the West ( By NATHAN THRALL )**

**Sinosphere Blog: Q. and A.: Bill Porter on Journeys, Poets and Best-Sellerdom in China ( By IAN JOHNSON )**

**Malaysia Airlines Plane Leaves Trail of Debris ( By SABRINA TAVERNISE )**

**Afghanistan Begins Audit of Presidential Election ( By MATTHEW ROSENBERG )**

Etc.

b. (10 points) Modify your output by adding the geographical regions (usually, but not always, countries) associated with the news item in the following format:

**Israel, Egypt, Gaza Strip, West Bank : Op-Ed Contributor: Gaza and Israel: The Road to War, Paved by the West ( By NATHAN THRALL )**

**China : Sinosphere Blog: Q. and A.: Bill Porter on Journeys, Poets and Best-Sellerdom in China ( By IAN JOHNSON )**

**Ukraine : Malaysia Airlines Plane Leaves Trail of Debris ( By SABRINA TAVERNISE )**

**Kabul (Afghanistan), Afghanistan : Afghanistan Begins Audit of Presidential Election ( By MATTHEW ROSENBERG )**

Etc.

Entries from the ‘Sinosphere Blog’ may not have properly formatted tags for region, so just put down “China” if they don’t list a proper region tag.

c. (10 points) Each news item has a link associated with it. Add this information as well:

**Israel, Egypt, Gaza Strip, West Bank : Op-Ed Contributor: Gaza and Israel: The Road to War, Paved by the West ( By NATHAN THRALL )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9cb588/sc/1/l/0L0Snytimes0N0C20A140C0A70C180Copinion0Cgaza0Eand0Eisrael0Ethe0Eroad0Eto0Ewar0Epaved0Eby0Ethe0Ewest0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**China : Sinosphere Blog: Q. and A.: Bill Porter on Journeys, Poets and Best-Sellerdom in China ( By IAN JOHNSON )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9beb7a/sc/10/l/0Lsinosphere0Bblogs0Bnytimes0N0C20A140C0A70C170Cq0Eand0Ea0Ebill0Eporter0Eon0Etravel0Ewriting0Ein0Echina0C0Dpartner0Frss0Gemc0Frss/story01.htm**

**Ukraine : Malaysia Airlines Plane Leaves Trail of Debris ( By SABRINA TAVERNISE )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9c287f/sc/3/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Ceurope0Cmalaysia0Eairlines0Eplane0Eleaves0Etrail0Eof0Edebris0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Kabul (Afghanistan), Afghanistan : Afghanistan Begins Audit of Presidential Election ( By MATTHEW ROSENBERG )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9b0853/sc/1/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Casia0Cafghanistan0Ebegins0Eaudit0Eof0Epresidential0Eelection0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

d. (15 points) Add the ability for the user to enter a category. Only show items that match that category:

**Please enter a category to search for: bank**

**Israel, Egypt, Gaza Strip, West Bank : Op-Ed Contributor: Gaza and Israel: The Road to War, Paved by the West ( By NATHAN THRALL )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9cb588/sc/1/l/0L0Snytimes0N0C20A140C0A70C180Copinion0Cgaza0Eand0Eisrael0Ethe0Eroad0Eto0Ewar0Epaved0Eby0Ethe0Ewest0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Frankfurt (Germany) : E.C.B. Sets Tight Deadline for Troubled Eurozone Banks ( By JACK EWING )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9797db/sc/2/l/0L0Snytimes0N0C20A140C0A70C180Cbusiness0Cinternational0Cecb0Esets0Edeadline0Efor0Etroubled0Eeurozone0Ebanks0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Please enter a category to search for: Russia**

**Russia, Ukraine : Malaysia Jet Brought Down in Ukraine by Missile, U.S. Officials Say ( By ERIC SCHMITT, MARCUS MABRY, NEIL MacFARQUHAR and DAVID M. HERSZENHORN )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c9aee57/sc/11/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Ceurope0Cmalaysian0Eairlines0Eplane0Eukraine0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Russia, Ukraine : Malaysia Airlines Plane With 295 Aboard Crashes in Ukraine ( By NEIL MacFARQUHAR, DAVID M. HERSZENHORN and RICK GLADSTONE )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c99f7a9/sc/10/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Ceurope0Cmalaysian0Eairlines0Ejet0Eukraine0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Russia, Ukraine : Malaysia Airlines Jet Missing Over Ukraine ( By NEIL MacFARQUHAR )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c99c157/sc/10/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Ceurope0Cmalaysian0Ejetliner0Emissing0Eover0Eukraine0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Ukraine, Donetsk (Ukraine), Moscow (Russia) : Ukraine Says Russian Plane Shot Down Its Fighter Jet ( By DAVID M. HERSZENHORN )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c98ddef/sc/1/l/0L0Snytimes0N0C20A140C0A70C180Cworld0Ceurope0Cukraine0Esays0Erussian0Eplane0Eshot0Edown0Eits0Efighter0Ejet0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Russia, Moscow (Russia) : Moscow Subway Crash Laid to Track Workers’ Mistake ( By ANDREW E. KRAMER )**

**Link: http://rss.nytimes.com/c/34625/f/642565/s/3c8dec92/sc/3/l/0L0Snytimes0N0C20A140C0A70C170Cworld0Ceurope0Ctwo0Emoscow0Econstruction0Eworkers0Earrested0Eover0Efatal0Esubway0Ecrash0Bhtml0Dpartner0Frss0Gemc0Frss/story01.htm**

**Group HW: Problem 2, Creating XML Files**

Create a file called “classes.xml” with this content:

**<?xml version="1.0" encoding="UTF-8"?>**

**<ClassList>**

**</ClassList>**

(20 points) Write a function, **add\_xml\_class**, that allows you to add a class node to this file. A class node might have the following contents:

**<Class>**

**<department abbr="I">INFO</department>**

**<title>**

**<number>201</number>**

**<name>Math Foundations of Informatics</name>**

**</title>**

**<credits>4</credits>**

**<days>MW</days>**

**<seats building="LH" room="102">90</seats>**

**</Class>**

Download a copy of “classes.csv” from Oncourse. This file has information for 6 classes in it.

(25 points) Using the ElementTree module, write code to read in the “classes.csv” file and save the information in it as elements in your “classes.xml” file. This should produce this output:

**New class added: I 201**

**New class added: I 210**

**New class added: L 311**

**New class added: M 550**

**New class added: A 200**

**New class added: A 325**

And this file:

**<?xml version="1.0" encoding="UTF-8"?>**

**<ClassList>**

**<Class>**

**<department abbr="I">INFO</department>**

**<title>**

**<number>201</number>**

**<name>Math Foundations of Informatics</name>**

**</title>**

**<credits>4</credits>**

**<days>MW</days>**

**<seats building="LH" room="102">90</seats>**

**</Class>**

**<Class>**

**<department abbr="I">INFO</department>**

**<title>**

**<number>210</number>**

**<name>Information Infrastructure I</name>**

**</title>**

**<credits>4</credits>**

**<days>MW</days>**

**<seats building="SB" room="015">75</seats>**

**</Class>**

**<Class>**

**<department abbr="L">BIOL</department>**

**<title>**

**<number>311</number>**

**<name>Genetics</name>**

**</title>**

**<credits>3</credits>**

**<days>TR</days>**

**<seats building="JH" room="A100">150</seats>**

**</Class>**

**<Class>**

**<department abbr="M">BIOL</department>**

**<title>**

**<number>550</number>**

**<name>Microbiology</name>**

**</title>**

**<credits>3</credits>**

**<days>MWF</days>**

**<seats building="JH" room="124">7</seats>**

**</Class>**

**<Class>**

**<department abbr="A">BUS</department>**

**<title>**

**<number>200</number>**

**<name>Foundations of Accounting</name>**

**</title>**

**<credits>3</credits>**

**<days>MW</days>**

**<seats building="HH" room="109">155</seats>**

**</Class>**

**<Class>**

**<department abbr="A">BUS</department>**

**<title>**

**<number>325</number>**

**<name>Cost Accounting</name>**

**</title>**

**<credits>3</credits>**

**<days>MW</days>**

**<seats building="HH" room="3030">40</seats>**

**</Class>**

**</ClassList>**

(5 points) Properly handle errors and validate any dangerous code in your file.

**Submission**

Upload your program (.py) to Oncourse under Assignments -> Assignment 5 (Group) as two ***.py files***. Name your files ***YourUsername\_A5\_group\_1.py,*** and ***YourUsername\_A5\_group\_2.py***

e.g. If I were to upload, it would be johfdunc\_A5\_group\_1.py and johfdunc\_A5\_group\_2.py

Include the following information as a comment at the top of the file you submit:

 Your name

 Your group number

Make sure you submit a copy of the I211 Homework Team Feedback Form (found on Oncourse). You must submit a copy of this form with every homework or lose 50% of your grade!

**Each member of the group must submit their own copy of the homework!**

Test your code thoroughly!