Exercise 3: Using Query Parameters

For this exercise, we are going to be using the National Public Radio API, which returns information on news stories that were produced by National Public Radio. It's a free API. You need to register in order to get an API key, and then you use that API key as a query parameter when getting information.

Let's use the API to get a list of stories on the subject of "Digital Life".

The NPR API only uses GET methods. This means that we can use a browser to make those requests, since requests from the browser address bar always use a GET method. Results are returned in XML, so you'll need a browser that displays XML well. I find that Chrome works well for this.

Step 1. Find the topic ID

Each topic has an ID. Let's make a call to get the list of topic IDs. From the documentation, I found that the server address is **http://api.npr.org** and the resource is **list**. By setting an **id** query parameter to 3002, you can get a list of topics. In your browser, put this in your address bar:

```
http://api.npr.org/list?id=3002
```

Note that this particular API call does not require an API key.

Search through the XML and find the string "Digital Life". It's contained in a tag called **item**, and looks like this:

```
<item id="1049" num="22" type="topic">
  <title>Digital Life</title>
  <additionalInfo>
NPR's stories on information technology, computing, and the internet.
Download podcasts and subscribe to RSS feeds. Listen to audio online.
  </additionalInfo>
</item>
```

Note that the **item** element has an attribute called **id** with a value of **1049**. So the ID for Digital Life topics is 1049. You'll use that in a moment.

The NPR API is in an older style that uses a query parameter for format. Let's try that URL again, but now add a format query parameter **output=JSON**. Let's add that on to the URL and see what it does. Remember, you'll need an ampersand (&) to separate the key/value pairs.

```
http://api.npr.org/list?id=3002&output=JSON
```

You'll get JSON returned, although it's all on one line, so difficult to read.

Step 2. Retrieve the list of stories

To get a list of stories about Digital Life, we now use the **query** resource and now we use an **id** of 1049. You also need an API key query parameter. (Again, this is an older API. More modern ones tend to use headers for API keys.) For convenience, I will let you use my API key. However, if you are going to be using it a lot, please get your own. (They are free — you just need to register.)

Put this URL in your browser:

`http://api.npr.org/query?id=1049&apiKey=MDE5NDA1NTUzMDE0MzMzNTE4NjhkNzEyMQ001`

You'll see a number of **story** elements, each with a lot of data about the stories.

If you look for an element inside the **story** element that's `<link type="html">`, you'll find a link. Put that link in your browser address bar, you can see the story in written form. So you can see how you could use the NPR API to find stories to display about a particular subject.

Step 3. Add more query parameters

Let's say you were only interested in stories that were played in the year 2013. Go back to the request with id=1049 and add two more query parameters: **startDate** and **endDate**. Their values should take the form **year-month-day**, where the year is four-digit, the month is two-digit, and the day is two-digit. What should the URL look like now with these new query parameters? Try it out in your browser. If you are successful, then the **storyDate** element should show values in the year 2013.

Note: the order of the query parameters is not important.

Step 4. One more query parameter

You might have noticed that the stories are returned in reverse chronological order: the most recent stories are first. Let's switch the order so that it's in ascending chronological order. Add another query parameter with a key of **sort** and a value of **dateAsc**.

Now, when you put the URL in the browser address bar, you'll see that the first story is from January of 2013.

Answers to steps 3 and 4 are here: http://sdkbridge.com/ud/Exercise3Answers.pdf