Web Scraping (Beautiful Soup)

Word Cloud with Pyhton

In [1]:

```
import urllib.request
import pandas as pd
from bs4 import BeautifulSoup
import re
import matplotlib.pyplot as plt

!pip install wordcloud
from wordcloud import WordCloud, STOPWORDS

%matplotlib inline
```

```
Requirement already satisfied: wordcloud in c:\users\ricardo\anaconda3\l
ib\site-packages (1.5.0)
Requirement already satisfied: numpy>=1.6.1 in c:\users\ricardo\anaconda
3\lib\site-packages (from wordcloud) (1.15.4)
Requirement already satisfied: pillow in c:\users\ricardo\anaconda3\lib
\site-packages (from wordcloud) (5.0.0)
```

In [2]:

```
# Parameters
# Before doing a web scraping, read "terms and conditions" at website. See also perm
issions at http://www.'webpage'/robots.txt
webpage = "http://www.diariocoimbra.pt"

# Sometimes, it will be needed to add an decoder.
decoder = 'utf-8'


with urllib.request.urlopen(webpage) as url:
    page = url.read()#.decode(decoder)
```

In [3]:

```
# Parse variable 'page' and store as Beautiful Soup object
soup = BeautifulSoup(page, "html.parser")
```

```
Some characters could not be decoded, and were replaced with REPLACEMENT
CHARACTER.
```

In [4]:

```
# Indicate the parameters to get all news-resume
resultSet = soup.find_all("div", class_='col-md-12 news_resume')
```

In [5]:

```
# Create a list for each news-resume, with a cleaning step
list = [re.sub(r'[^\w\s]','',re.sub('\n', '', i.text)) for i in resultSet]
```

In [6]:

```
# Create a pandas DataFrame

df = pd.DataFrame({'news':list})
```

In [7]:

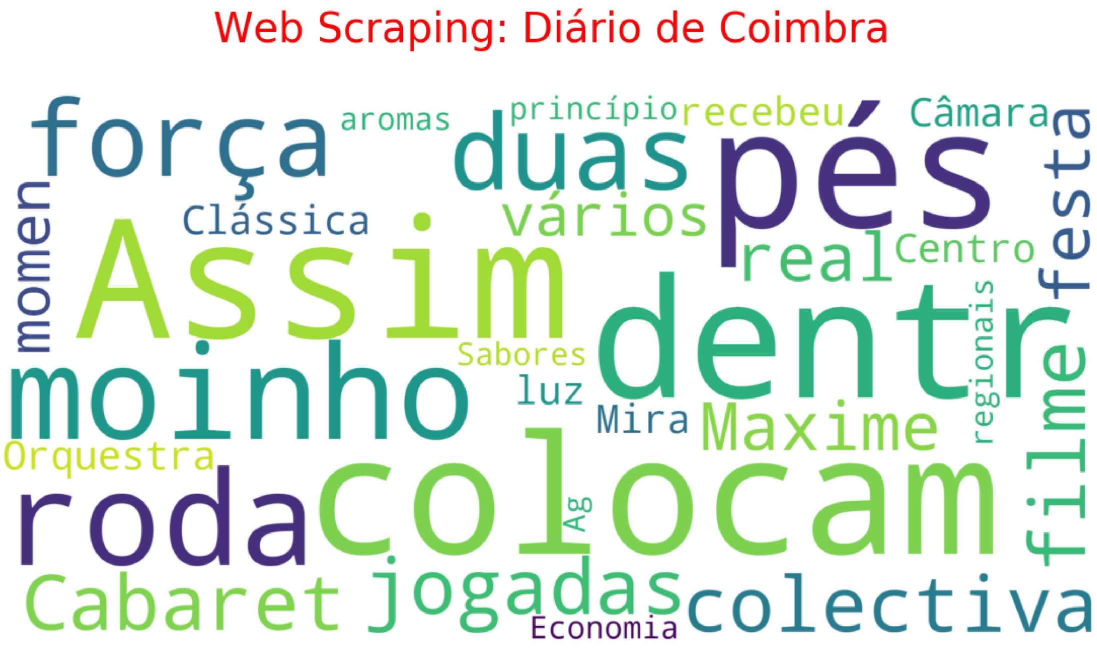
```
# Drop the columns where all elements are NaN
data = df['news'].dropna()
```

In [8]:

```
# Set stopwords
stopwords= set(STOPWORDS)

# Set a list of portuguese stopwords
new_words = []

web_stopwords_txt = 'https://gist.githubusercontent.com/alopes/5358189/raw/2107d809cca6b83ce3d8e04dbd9463283025284f/stopwords.txt'



with urllib.request.urlopen(web_stopwords_txt) as url2:
    f = url2.read().decode(decoder)


pt_stopwords = f.split()

new_stopwords = stopwords.union(pt_stopwords)
```

In [9]:

```
# Plot the WordCloud (if needed, adjust parameters)
plt.figure(figsize=(20,10))
wc = WordCloud(min_font_size=10,
               max_font_size=300,
               background_color='white',
               mode="RGB",
               stopwords=new_stopwords,
               max_words= 30,
               width=2000,
               height=1000,
               normalize_plurals= True).generate(str(data))


plt.title("Web Scraping: Diário de Coimbra\n", fontsize=40, color="red")
plt.imshow(wc, interpolation="bilinear")
plt.axis("off")
plt.show()
```



In [ ]: