Text cleaning (using Regex) [Python]

Yash Jain · Follow
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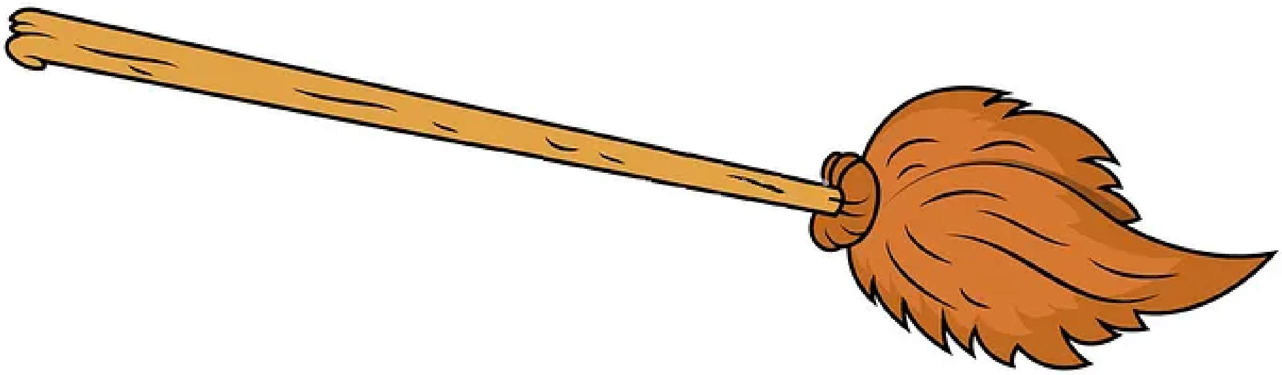

Source: storyblocks.com

We need to learn how to work with unstructured data to be able to extract relevant information from it and make it useful. While working with text data it is very important to pre-process it before using it for predictions or analysis.

Let’s take an example

```
text = """@blogger It is possible to have an anaphor that has no
lexical\
zero anaphor realization at all, called \na zero anaphor or zero
pronoun, as in the https://medium.com following Italian\n\
and Japanese examples from Poesio et al. (2016):
(21.15) EN [John]i bla bla http://medium.com #NLP @blogger"""
```

this above text contains mention(@) , url, hashtag, numbers, reference in square brackets(`[]`), newline character (\n), these are some data that we don’t want in our text. Let’s tackle these one by one.

We’ll use `re.sub` -> **“Return the string obtained by replacing the leftmost non-overlapping occurrences of the pattern in string by the replacement repl. repl can be either a string or a callable; if a string, backslash escapes in it are processed. If it is a callable, it’s passed the Match object and must return a replacement string to be used.”**

Syntax

```
import re #-> regex library
re.sub(pattern, repl, string, count=0, flags=0)  ##syntax
## repl -> replacement string
```

> *Regex cheatsheet*

- **Removing mentions (@)**

We used pattern “@\S+” -> it suggests string group which starts with ‘@’ and followed by non-whitespace character(\S), ‘+’ means repeatition of preceding character one or more times, `\S+` → here it represents one or more non-whitespace characters.

```
import re
re.sub(r"@\S+", "",text) # removing @blogger
```

Output:

> ' It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called \na zero anaphor or zero pronoun, as in the following Italian\nand Japanese examples from Poesio et al. (2016):\n(21.15) EN [John]i bla bla http://medium.com #NLP '

- **Removing urls (*http://*……)**

`?` → preceding character may or may not be present in the string,
`+` → 1 or more repetitions

```
re.sub("http[s]?\://\S+","",text) # removing http://medium.com
```

Output:

> '@blogger It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called \na zero anaphor or zero pronoun, as in the following Italian\nand Japanese examples from Poesio et al. (2016):\n(21.15) EN [John]i bla bla #NLP @blogger'

- **Removing hashtag (#…)**

It is similar as removing mentions

```
re.sub(r"#\S+", "",text) # removing #NLP
```

Output

> '@blogger It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called \na zero anaphor or zero pronoun, as in the https://medium.com following Italian\nand Japanese examples from Poesio et al. (2016):\n(21.15) EN [John]i bla bla http://medium.com @blogger'

- **Removing numbers (1,2,3..)**

[0–9] → represents range of numbers from 0 to 9

here we have replaced all numbers with empty string

```
re.sub(r"[0-9]", "",text) # removing 2016, 21 15
```

> ‘@blogger It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called \na zero anaphor or zero pronoun, as in the https://medium.com following Italian\nand Japanese examples from

> Poesio et al. ():\n(.) EN [John]i bla bla http://medium.com #NLP @blogger’

- **Removing text in brackets ([…] or (…))**

```
re.sub(r"(\(.*\))|(\[.*\])", "",text)
# removes (21.15), [John],(2016)
```

`|` this pipe character represents or operator which includes both `()` and `[]` exclusion

Output:

> '@blogger It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called \na zero anaphor or zero pronoun, as in the https://medium.com following Italian\nand Japanese examples from Poesio et al. :\n EN i bla bla http://medium.com #NLP @blogger'

- **Removing line or tab character (\n, \r, \t..)**

```
re.sub(r"\n", "",text) # removing \n
```

Output:

> '@blogger It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called a zero anaphor or zero pronoun, as in the https://medium.com following Italianand Japanese examples from

> Poesio et al. (2016):(21.15) EN [John]i bla bla http://medium.com #NLP @blogger'

- **Let's combine url, square and round brackets, mentions and hashtag & `\n`**

```
re.sub(r"(http[s]?\://\S+)|([\[\(].*[\)\]])|([#@]\S+)|\n", "",text)
```

Output:

> ' It is possible to have an anaphor that has no lexicalzero anaphor realization at all, called a zero anaphor or zero pronoun, as in the following Italianand Japanese examples from Poesio et al. :i bla bla '

- **Removing extra space**

\s → matches any whitespace characters such as space and tab

```
text = 'VERY EXTRA      SPACE     '
re.sub('\s+',' ',text)
```

Output:

> 'VERY EXTRA SPACE '

I hope this helps in text cleaning in some way… You can learn regex expression and practice some interesting examples here.

Regex Python Cleaning String Removing

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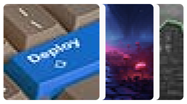

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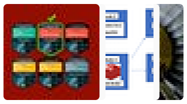

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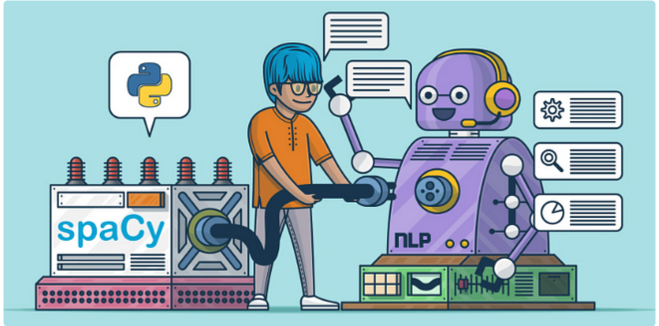

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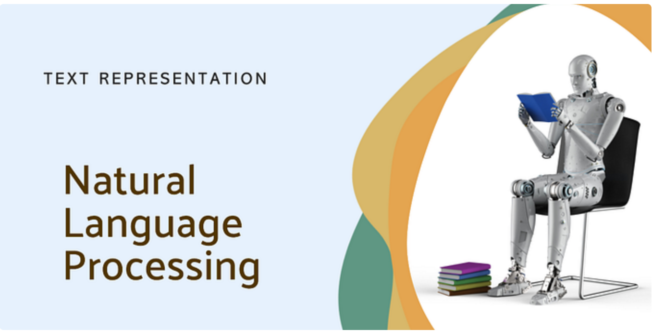

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