# Normalization



## **Normalization**

- Morpheme : base form of a word

Example: Antinationalist: Anti + national + ist

- Normalization: Process of converting a token into its base form (morpheme)
- Helpful in reducing data dimensionality, text cleaning
- Types: Stemming and Lemmatization



## Normalization: Stemming

 Elementary rule based process of removal of inflectional forms from a token

Outputs the stem of a word"laughing", "laughed", "laughs", "laugh" >>> "laugh"

Form	Suffix	Stem
studi <mark>es</mark>	-es	studi
studying	-ing	study
niñas	-as	niñ
niñ <mark>ez</mark>	-ez	niñ

May generate non-meaningful terms

his teams are not winning

>> hi team are not winn

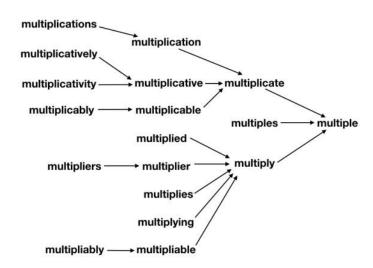


### Normalization: Lemmatization

- Systematic process for reducing a token to its lemma
- Makes use of vocabulary, and morphological analysis
- Example:

am, are, is >> be running , ran , run , rans >> run

- Running, 'verb' >> runRunning, 'noun'>> running
- Slower than Stemming





### Normalization: Lemmatization

Open the Jupyter Notebook







