NLP Exp 3

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Code:

```python
import nltk
# nltk.download('wordnet')
from nltk.stem import PorterStemmer, SnowballStemmer, LancasterStemmer,
RegexpStemmer, WordNetLemmatizer

# Sample text for testing
text = ['car', 'racing', 'quickly', 'better', 'lesser']

# Porter Stemmer
ps = PorterStemmer()
porter_stemmed_words = [ps.stem(word) for word in text]
print("Porter Stemmer:")
print(porter_stemmed_words)

# Snowball Stemmer (aka Porter2 Stemmer)
snowball_stemmer = SnowballStemmer("english")
snowball_stemmed_words = [snowball_stemmer.stem(word) for word in text]
print("\nSnowball Stemmer:")
print(snowball_stemmed_words)

# Lancaster Stemmer
lancaster_stemmer = LancasterStemmer()
lancaster_stemmed_words = [lancaster_stemmer.stem(word) for word in text]
print("\nLancaster Stemmer:")
print(lancaster_stemmed_words)

# Regex Stemmer
pattern = r"(ing|ed|es|s)$"
regex_stemmer = RegexpStemmer(pattern)
regex_stemmed_words = [regex_stemmer.stem(word) for word in text]
print("\nRegex Stemmer:")
print(regex_stemmed_words)

# Lemmatization
lemmatizer = WordNetLemmatizer()
# lemmatized_words = [lemmatizer.lemmatize(word) for word in
nltk.word_tokenize(text)]
lemmatized_words = [lemmatizer.lemmatize(word) for word in text]
print("\nLemmatization:")
print(lemmatized_words)
```

Output:

Sample	Porter	Snowball	Lancaster	Regex	Lemmatization
car	car	car	car	car	car
racing	race	race	Rac	rac	racing
quickly	quickli	quick	quick	quickly	quickly
better	better	better	bet	better	better
lesser	lesser	lesser	less	lesser	lesser

car	All
racing	Porter, Snowball
quickly	Snowball, Lancaster
better	Porter, Snowball, Regex, Lemmatization
lesser	Lancaster