

Now the next step is to perform some text preprocessing steps which include:

1. Lower casing
2. Removal of Punctuations
3. Removal of Stopwords
4. Removal of URLs
5. Spelling correction

```
## Lower Casing
zomato["reviews_list"] = zomato["reviews_list"].str.lower()
```

```
## Removal of Punctuations
import string
PUNCT_TO_REMOVE = string.punctuation
def remove_punctuation(text):
    """custom function to remove the punctuation"""
    return text.translate(str.maketrans('', '', PUNCT_TO_REMOVE))
```

```
zomato["reviews_list"] = zomato["reviews_list"].apply(lambda text: remove_punctuation(text))
```

```
import nltk
nltk.download('stopwords')
```

```
## Removal of Stopwords
from nltk.corpus import stopwords
STOPWORDS = set(stopwords.words('english'))
def remove_stopwords(text):
    """custom function to remove the stopwords"""
    return " ".join([word for word in str(text).split() if word not in STOPWORDS])
```

```
zomato["reviews_list"] = zomato["reviews_list"].apply(lambda text: remove_stopwords(text))
```

```
## Removal of URLs
def remove_urls(text):
    url_pattern = re.compile(r'https?://\S+|www\.\S+')
    return url_pattern.sub(r'', text)
```

```
zomato["reviews_list"] = zomato["reviews_list"].apply(lambda text: remove_urls(text))
```

```
zomato[['reviews_list', 'cuisines']].sample(5)
```