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DATA 690 Introduction to NLP

Homework, Week 1

1. Which of the following is not an application of NLP?

a. Image labeling

b. Poetry generation

c. Sentimental analysis

d. E-mail classification

Ans. **Image labeling**

Poetry generation → Text generation→ involves NLP

Sentiment Analysis → Text analysis → involves NLP

E-mail → Text analysis → involves NLP

2. Which of the following is not an NLP task?

a. Tokenization

b. Stop word removal

c. Part-of-speech tagging

d. Image segmentation

Ans. Image Segmentation

Tokenization, Stop word removal, Stemming/Lemmatization, POS tagging involves NLP

3. Which of the following is not a disadvantage of rule-based approaches for NLP?

a. Not flexible

b. Not scalable

c. Requires huge dataset

d. None of the above

Ans. Requires Huge Data set

Rule based approach of NLP requires set of predefined rules and does not require huge datasets

4. What are the two major types of NLP approaches?

Ans.

1. Rule-based approach (Retrieval based): This approach needs predefined rules that are made by developer.

2. Machine-Learning based approach (AI based): This approach requires algorithms, mathematical models, and statistical methods to make computers understand, interpret, predict and generate human language as output.

5. Use TextBlob to translate a sentence in English into French, Mandarin, and

Hindi?

a. Import TextBlob

b. Languages are coded as 'fr', 'zh-CN', 'hi'

c. Translate the following sentence "Who knew translation could be fun" into

French, Mandarin, and Hindi

Ans.

```
# Import Necessary libraries
from textblob import TextBlob
from googletrans import Translator

# Enter text to be translated
text = "Who knew translation could be fun"

# Initiate the Translator object
translator = Translator()

# Consider 3 languages of French, Hindi, Mandarin to get translated from english
for language in ['fr','hi','zh-CN']:
    # Translate using googletrans
    result = translator.translate(text, dest=language)
    translated_text = result.text

    # Now pass the translated text into TextBlob for further processing
    blob = TextBlob(translated_text)
    print(language,'-->',blob)
```

```
fr --> Qui savait que la traduction pouvait être amusante
hi --> कौन जानता था कि अनुवाद मजेदार हो सकता है
zh-CN --> 谁知道翻译可能很有趣
```