Self test Questions for Slides Set #8

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These questions should help review the key concepts presented in the slides!

Basic Understanding

1. What is the main focus of Natural Language Processing (NLP)?

2. What is the difference between structured and unstructured text data? Provide examples of each.

3. Why is NLP important in modern applications? Name at least two industries where NLP plays a significant role.

4. What are some common challenges in NLP?

5. What are the two types of tokenization, and what is the difference between them? Provide examples.

NLP Workflow and Techniques

6. What is the typical workflow in NLP? Describe each step briefly.

7. What is Part-of-Speech (POS) tagging, and why is it important in NLP?

8. Explain the concept of Named Entity Recognition (NER) with an example.

9. What are some of the challenges that arise in POS tagging and NER? Provide examples.

10. How are tokenization, POS tagging, and NER combined in real-world applications? Provide an example.

NLP Applications and Tools

11. List three major applications of NLP in engineering, and explain how NLP is used in each.

12. How can NLP be applied in document classification for civil engineering reports? What challenges might arise?

13. What are some of the key tools used for NLP tasks, and what are their features? Compare NLTK and spaCy.

14. How can NLP be used to improve customer service in mechanical engineering through chatbots?

15. What role does NLP play in automated fault detection systems in electrical engineering?

Advanced Applications

16. Explain how NLP is used in text summarization. What are the two types of summarization?

17. Describe how sentiment analysis works and provide an example of its application.

18. What is the role of NLP in machine translation? Name a real-world example of machine translation.

19. How does NLP help in information retrieval and search engines?

20. Give an example of how NLP is used in healthcare applications. What are the benefits?