

12 Lecture - CS402

Important Mcqs

1. **What is Kleene's theorem part III?**

- A. A theorem for proving regularity of languages
- B. A theorem for proving context-free grammars
- C. A theorem for proving undecidability
- D. A theorem for proving context-sensitive grammars

Answer: A

What is the pumping lemma for regular languages?

- A. A necessary condition for a language to be regular
- B. A necessary condition for a language to be context-free
- C. A necessary condition for a language to be recursive
- D. A necessary condition for a language to be context-sensitive

Answer: A

Which of the following statements is true?

- A. The pumping lemma can be used to prove that a language is regular
- B. The pumping lemma can be used to prove that a language is context-free
- C. The pumping lemma can be used to prove that a language is recursive
- D. The pumping lemma can be used to prove that a language is context-sensitive

Answer: A

The pumping lemma applies to which type of languages?

- A. Regular languages
- B. Context-free languages
- C. Recursive languages
- D. Context-sensitive languages

Answer: A

What is the main idea behind the pumping lemma?

- A. Regular languages have certain constraints on the length of their strings
- B. Context-free languages have certain constraints on the length of their strings
- C. Recursive languages have certain constraints on the length of their strings
- D. Context-sensitive languages have certain constraints on the length of their strings

Answer: A

Which of the following is a necessary condition for a language to be regular?

- A. The pumping lemma holds for the language
- B. The language contains a context-free grammar
- C. The language is recursive
- D. The language is context-sensitive

Answer: A

Which of the following is true regarding the pumping lemma?

- A. It can be used to prove that a language is not regular

- B. It can be used to prove that a language is regular
- C. It can be used to prove that a language is context-free
- D. It can be used to prove that a language is recursive

Answer: A

The pumping lemma involves which of the following?

- A. Decomposing a string into three parts
- B. Checking whether the string contains a particular substring
- C. Comparing two different languages
- D. Counting the number of non-terminals in a grammar

Answer: A

Which of the following is a common use of the pumping lemma?

- A. To prove that a language is regular
- B. To prove that a language is context-free
- C. To prove that a language is recursive
- D. To prove that a language is context-sensitive

Answer: A

The pumping lemma is a useful tool for which of the following?

- A. Proving that a language is not regular
- B. Proving that a language is context-free
- C. Proving that a language is recursive
- D. Proving that a language is context-sensitive

Answer: A