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