

36 Lecture - CS402

Important Mcqs

1. Which of the following is true about Chomsky Normal Form (CNF)?

- A) All nonterminal symbols can generate epsilon
- B) All nonterminal symbols can generate at most one terminal symbol
- C) All nonterminal symbols can generate at most two nonterminal symbols
- D) All nonterminal symbols can generate both terminal and nonterminal symbols

Answer: C

What is the benefit of converting a context-free grammar (CFG) to Chomsky Normal Form (CNF)?

- A) It eliminates all nonterminal symbols
- B) It makes the grammar more complex
- C) It simplifies parsing by removing ambiguity
- D) It increases the number of productions

Answer: C

Which of the following statements is true about Chomsky Normal Form (CNF) grammars?

- A) They are more expressive than regular grammars
- B) They are less expressive than context-free grammars
- C) They are equivalent in expressive power to context-free grammars
- D) They are only used for parsing programming languages

Answer: C

What is the form of the production rules in Chomsky Normal Form (CNF)?

- A) $A \rightarrow aB$
- B) $A \rightarrow a$
- C) $A \rightarrow BC$
- D) $A \rightarrow ?$

Answer: C

How many nonterminal symbols can appear on the right-hand side of a production rule in Chomsky Normal Form (CNF)?

- A) None
- B) One
- C) Two
- D) Three

Answer: C

What is the purpose of converting a CFG to Chomsky Normal Form (CNF)?

- A) To increase the number of productions
- B) To remove all terminal symbols
- C) To eliminate ambiguity in parsing
- D) To make the grammar more complex

Answer: C

Which of the following is an example of a production rule in Chomsky Normal Form

(CNF)?

- A) $A \rightarrow aB$
- B) $A \rightarrow B$
- C) $A \rightarrow BC$
- D) $A \rightarrow ?$

Answer: C

Can every context-free grammar be converted to Chomsky Normal Form (CNF)?

- A) Yes
- B) No

Answer: A

Which of the following is not allowed in Chomsky Normal Form (CNF)?

- A) Production rules with one nonterminal symbol and one terminal symbol
- B) Production rules with only one nonterminal symbol
- C) Production rules with more than two nonterminal symbols
- D) Production rules with epsilon on the right-hand side

Answer: C

What is the advantage of Chomsky Normal Form (CNF) over other forms of context-free grammars?

- A) It can handle regular languages
- B) It has fewer production rules
- C) It makes parsing more efficient
- D) It can handle non-context-free languages

Answer: C