# **25 Lecture - CS402**

## **Important Mcqs**

#### 1. Which of the following is a nonregular language?

- a) The set of all strings over {0,1} with an equal number of 0's and 1's
- b) The set of all strings over {0,1} that contain the substring 110
- c) The set of all strings over {0,1} that start and end with the same symbol
- d) The set of all strings over {0,1} that contain an equal number of 0's and 1's

#### Answer: b

## Which of the following is true about nonregular languages?

- a) They can be recognized by deterministic finite automata
- b) They can be expressed by regular expressions
- c) They have complex or infinite structures that cannot be captured by finite automata
- d) They are always context-free languages

#### Answer: c

#### Which of the following is a nonregular language?

- a) The set of all strings over {0,1} that contain at least three 1's
- b) The set of all strings over {0,1} that contain an even number of 0's
- c) The set of all strings over {0,1} that contain an odd number of 1's
- d) The set of all strings over {0,1} that start and end with different symbols

#### Answer: a

#### Which of the following is true about nonregular languages?

- a) They can be recognized by pushdown automata
- b) They can be recognized by Turing machines
- c) They are closed under union, concatenation, and Kleene star
- d) They can always be transformed into regular languages by adding additional symbols

#### Answer: b

#### Which of the following is a nonregular language?

- a) The set of all strings over {a,b} that have an equal number of a's and b's
- b) The set of all strings over {a,b} that start and end with the same symbol
- c) The set of all strings over {a,b} that contain the substring abab
- d) The set of all strings over {a,b} that contain an equal number of a's and b's

#### Answer: c

#### Which of the following is true about nonregular languages?

- a) They are always infinite
- b) They cannot be recognized by any type of automaton
- c) They are closed under intersection and complementation
- d) They can be recognized by nondeterministic finite automata

#### Answer: b

#### Which of the following is a nonregular language?

a) The set of all strings over {a,b} that contain an equal number of a's and b's

- b) The set of all strings over {a,b} that start and end with the same symbol
- c) The set of all strings over {a,b} that contain the substring aabb
- d) The set of all strings over {a,b} that have an odd number of a's

#### Answer: c

## Which of the following is true about nonregular languages?

- a) They are always context-sensitive languages
- b) They can be expressed by context-free grammars
- c) They are closed under intersection and complementation
- d) They can be recognized by pushdown automata

#### Answer: d

## Which of the following is a nonregular language?

- a) The set of all strings over {0,1} that contain the substring 101
- b) The set of all strings over {0,1} that have an odd number of 0's
- c) The set of all strings over {0,1} that contain the substring 0110
- d) The set of all strings over {0,1