

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 $\{0,1\}$