

36 Lecture - CS301

Important Mcqs

1. What is the time complexity of a linear search algorithm?

- a) $O(n)$
- b) $O(\log n)$
- c) $O(n^2)$
- d) $O(1)$

Answer: a) $O(n)$

2. Which of the following is not an asymptotic notation used for running time analysis?

- a) Big O notation
- b) Theta notation
- c) Little O notation
- d) Epsilon notation

Answer: d) Epsilon notation

3. What is the time complexity of a binary search algorithm?

- a) $O(n)$
- b) $O(\log n)$
- c) $O(n^2)$
- d) $O(1)$

Answer: b) $O(\log n)$

4. Which of the following is a constant time complexity algorithm?

- a) Bubble sort
- b) Insertion sort
- c) Quick sort
- d) Counting sort

Answer: d) Counting sort

5. Which of the following is an example of an exponential time complexity algorithm?

- a) Merge sort
- b) Quick sort
- c) Bubble sort
- d) Traveling salesman problem

Answer: d) Traveling salesman problem

6. Which of the following is not a factor that can affect the running time of an algorithm?

- a) Input size
- b) Memory usage
- c) Hardware configuration
- d) Implementation details

Answer: b) Memory usage

7. What is the time complexity of a worst-case scenario for a sorting algorithm?

- a) $O(n)$

- b) $O(\log n)$
- c) $O(n^2)$
- d) $O(1)$

Answer: c) $O(n^2)$

8. What is the time complexity of a best-case scenario for a sorting algorithm?

- a) $O(n)$
- b) $O(\log n)$
- c) $O(n^2)$
- d) $O(1)$

Answer: a) $O(n)$

9. Which of the following is an example of a logarithmic time complexity algorithm?

- a) Merge sort
- b) Quick sort
- c) Binary search
- d) Bubble sort

Answer: c) Binary search

10. Which of the following is an example of a quadratic time complexity algorithm?

- a) Merge sort
- b) Quick sort
- c) Insertion sort
- d) Heap sort

Answer: c) Insertion sort