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

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