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