43 Lecture - CS301

Important Mcqs

1. What is the purpose of hashing animation?

- A) To visualize the working of a hash table
- B) To test the efficiency of a hash function
- C) To optimize the performance of a hash table
- D) To compare different sorting algorithms

Answer: A

2. Which of the following is a common technique for handling collisions in hash tables?

- A) Sorting
- B) Merging
- C) Chaining
- D) Selection

Answer: C

3. In hashing animation, what does a slot in a hash table represent?

- A) A key-value pair
- B) A hash code
- C) A collision
- D) A search operation

Answer: A

4. How does a hash function map keys to their corresponding slots in a hash table?

- A) By performing a mathematical operation on the key
- B) By iterating over each slot in the table
- C) By using a binary search algorithm
- D) By comparing the key to a pre-defined list of values

Answer: A

5. Which of the following is an advantage of using hashing over other data structures like arrays or linked lists?

- A) Constant time complexity for all operations
- B) Lower space complexity
- C) More flexible data organization
- D) Greater accuracy in data retrieval

Answer: A

6. What is the role of a load factor in a hash table?

- A) To control the number of collisions
- B) To determine the number of slots in the table
- C) To improve the performance of the hash function
- D) To ensure the hash table is sorted

Answer: A

7. Which of the following is a disadvantage of using chaining to handle collisions in a hash table?

- A) Increased space complexity
- B) Decreased search efficiency
- C) More complex implementation
- D) Lower load factor

Answer: A

8. What is open addressing in hash tables?

- A) A technique for handling collisions by storing values in linked lists
- B) A technique for handling collisions by searching for the next available slot in the table
- C) A technique for handling collisions by rehashing the key
- D) A technique for handling collisions by using a binary search algorithm

Answer: B

9. In a hash table, what is the worst-case time complexity for a search operation?

- A) O(1)
- B) O(log n)
- C) O(n)
- D) It depends on the specific hash function

Answer: C

10. How does the performance of a hash table change as the load factor increases?

- A) It becomes faster
- B) It becomes slower
- C) It remains constant
- D) It depends on the specific hash function

Answer: B