42 Lecture - CS301

Important Mcqs

1. **What is collision in computer science?**
   A. A situation where a program crashes
   B. A situation where two or more data items end up at the same memory location
   C. A situation where a program encounters a syntax error
   D. A situation where a program encounters a logical error
   Answer: B

2. **Which of the following data structures can experience collisions?**
   A. Linked lists
   B. Arrays
   C. Hash tables
   D. Stacks
   Answer: C

3. **What is the impact of collisions on data structure performance?**
   A. Faster access times
   B. Slower access times
   C. Increased data security
   D. Decreased memory consumption
   Answer: B

4. **What is chaining in collision handling?**
   A. Resolving a collision by allocating new memory
   B. Resolving a collision by reorganizing the data structure
   C. Resolving a collision by deleting the collided data item
   D. Resolving a collision by linking the collided data items together
   Answer: D

5. **Which of the following is a disadvantage of chaining?**
   A. It requires less memory
   B. It can result in longer access times
   C. It can result in data loss
   D. It requires more processing power
   Answer: B

6. **Which of the following is a disadvantage of open addressing?**
   A. It requires more memory
   B. It can result in longer access times
   C. It can result in data loss
   D. It requires more processing power
   Answer: A

7. **What is linear probing in open addressing?**
   A. Resolving a collision by rehashing the key

B. Resolving a collision by allocating new memory
C. Resolving a collision by searching sequentially for an empty slot
D. Resolving a collision by randomly selecting a new memory location
Answer: C

8. **What is quadratic probing in open addressing?**
A. Resolving a collision by rehashing the key
B. Resolving a collision by allocating new memory
C. Resolving a collision by searching sequentially for an empty slot
D. Resolving a collision by incrementing the probe step by a quadratic function of the previous step
Answer: D

9. **Which of the following is an example of a hash function?**
A. Sorting algorithm
B. Linear search
C. Bubble sort
D. MD5
Answer: D

10. **What is the purpose of a hash function in collision handling?**
A. To reduce the number of collisions
B. To increase the number of collisions
C. To increase the memory consumption
D. To decrease the access time
Answer: A