5 Lecture - CS301

Important Mcqs

1. **What is a benefit of using a circular linked list?**
   a) It has a fixed size
   b) It allows for efficient implementation of circular structures
   c) It cannot be traversed multiple times
   d) It is less efficient than a linear linked list

Answer: b

2. **What is a circular buffer?**
   a) A data structure that can only be accessed in a circular order
   b) A data structure that can only be accessed in a linear order
   c) A buffer that can be efficiently implemented using a circular linked list
   d) A buffer that can only hold a fixed number of elements

Answer: c

3. **How can a circular linked list simplify insertion at the beginning or end?**
   a) It requires more memory than a linear linked list
   b) It requires less memory than a linear linked list
   c) It requires the same amount of memory as a linear linked list
   d) It cannot simplify insertion at the beginning or end

Answer: b

4. **What is a disadvantage of using a circular linked list?**
   a) It is less efficient than a linear linked list
   b) It cannot represent circular structures
   c) It is more difficult to implement than a linear linked list
   d) It has a fixed size

Answer: a

5. **Which algorithm can be efficiently implemented using a circular linked list?**
   a) Binary search
   b) Depth-first search
   c) Breadth-first search
   d) Traversing the list multiple times

Answer: d

6. **What is a circular linked list?**
   a) A linked list where each node has a pointer to the previous node
   b) A linked list where each node has a pointer to the next node and the previous node

c) A linked list where the last node points to the first node
d) A linked list where the first node points to the last node

Answer: c

7. **What is a benefit of using a circular linked list for representing a clock?**
   a) It is less efficient than a linear linked list
   b) It allows for efficient implementation of circular structures
   c) It requires more memory than a linear linked list
   d) It cannot represent circular structures

Answer: b

8. **What is a circular linked list used for?**
   a) Representing trees
   b) Implementing binary search
   c) Implementing circular buffering
   d) Storing fixed-size data

Answer: c

9. **Can a circular linked list be traversed multiple times?**
   a) Yes, but it is less efficient than a linear linked list
   b) No, it can only be traversed once
   c) Yes, and it is more efficient than a linear linked list
   d) Yes, but it requires more memory than a linear linked list

Answer: c

10. **How is deletion at the end of a circular linked list implemented?**
    a) The last node's pointer is set to NULL
    b) The last node's pointer is set to the first node
    c) The second to last node's pointer is set to NULL
    d) The second to last node's pointer is set to the first node

Answer: c