

CS302

Midterm important questions 2024

VU360

Here are some important questions from CS302 Virtual University Midterm 2024:

Lecture 1-5:

1. What is the difference between an algorithm and a program?
2. What is the time complexity of an algorithm?
3. What is the space complexity of an algorithm?
4. What is the trade-off between time and space complexity?
5. What is the concept of Big-O notation?

Lecture 6-10:

6. What is the difference between a stack and a queue?
7. What is the implementation of a stack using an array?
8. What is the implementation of a queue using a linked list?
9. What is the concept of recursion and its relation to stacks?
10. What is the concept of dynamic memory allocation?

Lecture 11-15:

11. What is the difference between a linear and a non-linear data structure?
12. What is the concept of a linked list and its implementation?
13. What is the concept of a binary tree and its implementation?
14. What is the concept of a graph and its representation?
15. What is the concept of a hash table and its implementation?

Lecture 16-20:

16. What is the concept of sorting and its algorithms (Bubble sort, Selection sort, Insertion sort)?
17. What is the concept of searching and its algorithms (Linear search, Binary search)?
18. What is the concept of graph traversal and its algorithms (DFS, BFS)?

19. What is the concept of dynamic programming and its relation to recursion?

20. What is the concept of greedy algorithms and their applications?

Lecture 21-22:

21. What is the concept of backtracking and its applications?

22. What is the concept of divide and conquer algorithms and their applications?