

## Coding Questions

- ☐ Check if a number is a palindrome
- ☐ Check if a number is prime
- ☐ Find the factorial of a number
- ☐ Print Fibonacci series up to N terms
- ☐ Reverse a given number
- ☐ Reverse a given string
- ☐ Check if a string is a palindrome
- ☐ Find the sum of digits of a number
- ☐ Check if a number is even or odd
- ☐ Find the largest of three numbers
- ☐ Count the number of digits in a number
- ☐ Find the GCD of two numbers
- ☐ Find the LCM of two numbers
- ☐ Check if a number is an Armstrong number
- ☐ Print all prime numbers between 1 and N
- ☐ Find the second largest element in an array
- ☐ Find the smallest element in an array
- ☐ Calculate the sum of elements in an array
- ☐ Sort an array in ascending order
- ☐ Search an element in an array (linear search)
- ☐ Check if two strings are anagrams
- ☐ Count vowels and consonants in a string
- ☐ Remove duplicate elements from an array
- ☐ Find the frequency of each character in a string
- ☐ Swap two numbers without using a third variable
- ☐ Find the missing number in an array of 1 to N
- ☐ Check if a year is a leap year
- ☐ Print a pyramid pattern using stars
- ☐ Convert decimal to binary
- ☐ Find the power of a number without using built-in functions

## Technical Questions

### Object Oriented Programming

- ☐ What is Object-Oriented Programming?
- ☐ What is a class?
- ☐ What is an object?
- ☐ What is encapsulation?
- ☐ What is abstraction?
- ☐ What is inheritance?

- ☐ What is polymorphism?
  - ☐ What is method overloading?
  - ☐ What is method overriding?
  - ☐ What is a constructor?
  - ☐ What is a destructor?
  - ☐ What is the difference between class and object?
  - ☐ What is the difference between abstraction and encapsulation?
  - ☐ What is an interface?
  - ☐ What is an abstract class?
  - ☐ What is the difference between abstract class and interface?
  - ☐ What is dynamic binding?
  - ☐ What is static binding?
  - ☐ What is the use of the `this` keyword?
  - ☐ What is the `super` keyword?
  - ☐ What are access modifiers?
  - ☐ What is multiple inheritance?
  - ☐ What is the diamond problem?
  - ☐ What is upcasting and downcasting?
  - ☐ What is a virtual function?
  - ☐ What is runtime polymorphism?
  - ☐ What is compile-time polymorphism?
  - ☐ What is object cloning?
  - ☐ What is immutability?
  - ☐ What is a design pattern?
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## Operating System (OS)

- ☐ What is an operating system?
- ☐ What are the main functions of an OS?
- ☐ What is a process?
- ☐ What is a thread?
- ☐ What is the difference between process and thread?
- ☐ What is multitasking?
- ☐ What is multithreading?
- ☐ What is context switching?
- ☐ What is deadlock?
- ☐ What are the necessary conditions for deadlock?
- ☐ What is starvation?
- ☐ What is aging in OS?
- ☐ What is CPU scheduling?
- ☐ What is a scheduling algorithm?
- ☐ What is FCFS scheduling?
- ☐ What is Round Robin scheduling?
- ☐ What is priority scheduling?
- ☐ What is paging?

- ☐ What is segmentation?
  - ☐ What is virtual memory?
  - ☐ What is a page fault?
  - ☐ What is demand paging?
  - ☐ What is thrashing?
  - ☐ What is semaphore?
  - ☐ What is mutex?
  - ☐ What is critical section?
  - ☐ What is inter-process communication (IPC)?
  - ☐ What is system call?
  - ☐ What is kernel?
  - ☐ What is user mode and kernel mode?
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## **Computer Networks (CN)**

- ☐ What is a computer network?
- ☐ What are the types of networks (LAN, MAN, WAN)?
- ☐ What is the OSI model?
- ☐ How many layers are in the OSI model?
- ☐ What is the TCP/IP model?
- ☐ What is the difference between TCP and UDP?
- ☐ What is an IP address?
- ☐ What is IPv4 and IPv6?
- ☐ What is a MAC address?
- ☐ What is a port number?
- ☐ What is DNS?
- ☐ What is DHCP?
- ☐ What is HTTP?
- ☐ What is HTTPS?
- ☐ What is FTP?
- ☐ What is SMTP?
- ☐ What is packet switching?
- ☐ What is circuit switching?
- ☐ What is a router?
- ☐ What is a switch?
- ☐ What is a hub?
- ☐ What is the difference between hub, switch, and router?
- ☐ What is subnetting?
- ☐ What is bandwidth?
- ☐ What is latency?
- ☐ What is jitter?
- ☐ What is firewall?
- ☐ What is NAT?
- ☐ What is ARP?
- ☐ What is ICMP?

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## DBMS (Database Management System)

- ☐ What is DBMS?
- ☐ What is a database?
- ☐ What is the difference between DBMS and RDBMS?
- ☐ What is a table?
- ☐ What is a record?
- ☐ What is a field?
- ☐ What is a primary key?
- ☐ What is a foreign key?
- ☐ What is a candidate key?
- ☐ What is normalization?
- ☐ What are the normal forms?
- ☐ What is denormalization?
- ☐ What is an index?
- ☐ What is SQL?
- ☐ What are DDL commands?
- ☐ What are DML commands?
- ☐ What are DCL commands?
- ☐ What is a join?
- ☐ What are the types of joins?
- ☐ What is INNER JOIN?
- ☐ What is LEFT JOIN?
- ☐ What is RIGHT JOIN?
- ☐ What is FULL JOIN?
- ☐ What is a view?
- ☐ What is a stored procedure?
- ☐ What is a trigger?
- ☐ What is ACID property?
- ☐ What is a transaction?
- ☐ What is rollback?
- ☐ What is commit?