

# OOPs Interview Questions

What is Object-Oriented Programming (OOP)?

What are the main principles of OOP?

What is a Class and an Object?

What is Inheritance?

What is Polymorphism?

What is Encapsulation?

What is Abstraction?

What is the difference between method overloading and method overriding?

What is an interface in Java?

What is an abstract class in Java?

How does Java achieve runtime polymorphism?

What is the difference between an abstract class and an interface in Java 8 and later?

Can you explain the concept of the SOLID principles in OOP?

What is the use of the super keyword in Java?

What is the this keyword in Java?

What is the difference between a constructor and a method?

What is the role of the final keyword in Java?

What is the difference between == and equals() in Java?

What is the purpose of the static keyword in Java?

What is the difference between shallow copy and deep copy?

What is the difference between composition and inheritance?

What is the purpose of the toString() method in Java?

What is the difference between an inner class and a nested class?

What is the purpose of the clone() method in Java?

What is the difference between ArrayList and LinkedList in Java?

What is the difference between HashMap and Hashtable in Java?

What is the purpose of the hashCode() method in Java?

What is the difference between Comparable and Comparator in Java?

What is the purpose of the synchronized keyword in Java?

What is the difference between wait() and sleep() in Java?

What is the purpose of the transient keyword in Java?

What is the difference between Serializable and Externalizable in Java?

What is the purpose of the volatile keyword in Java?

What is the difference between throw and throws in Java?

What is the purpose of the default keyword in Java 8 interfaces?

## Number Programs

Prime Number Check

Write a program to check if a given number is prime.

Fibonacci Series

Write a program to generate the Fibonacci series up to a given number.

Palindrome Number

Write a program to check if a given number is a palindrome.

Armstrong Number

Write a program to check if a given number is an Armstrong number.

Factorial Calculation

Write a program to calculate the factorial of a given number.

Greatest Common Divisor (GCD)

Write a program to find the GCD of two numbers.

Least Common Multiple (LCM)

Write a program to find the LCM of two numbers.

Sum of Digits

Write a program to find the sum of the digits of a given number.

Reverse a Number

Write a program to reverse a given number.

Swap Two Numbers

Write a program to swap two numbers without using a temporary variable.

Check for Perfect Number

Write a program to check if a given number is a perfect number.

Check for Strong Number

Write a program to check if a given number is a strong number.

Check for Happy Number

Write a program to check if a given number is a happy number.

Check for Automorphic Number

Write a program to check if a given number is an automorphic number.

Check for Harshad Number

Write a program to check if a given number is a Harshad number.

Check for Kaprekar Number

Write a program to check if a given number is a Kaprekar number.

Check for Duck Number

Write a program to check if a given number is a duck number.

Check for Spy Number

Write a program to check if a given number is a spy number.

Check for Neon Number

Write a program to check if a given number is a neon number.

Check for Pronic Number

Write a program to check if a given number is a pronic number.

Check for Niven Number

Write a program to check if a given number is a Niven number.

Check for Disarium Number

Write a program to check if a given number is a disarium number.

Check for Smith Number

Write a program to check if a given number is a Smith number.

Check for Emirp Number

Write a program to check if a given number is an emirp number.

Check for Twin Prime Numbers

Write a program to check if two given numbers are twin primes.

Check for Co-prime Numbers

Write a program to check if two given numbers are co-prime.

Check for Magic Number

Write a program to check if a given number is a magic number