

# Number Theory A Programmers Guide

Basics of Number Theory | Special Class Live| Tarun Gupta - Basics of Number Theory | Special Class Live| Tarun Gupta 1 hour, 7 minutes - In this session, Tarun Gupta will discuss the basic building blocks of **numbers**, - primes - finding them (sieve), splitting a **number**, ...

Chinese remainder theorem

General

Playback

Applications of Number Theory

How to Find Prime Numbers in O(N)

GCD

Find the Smallest Prime Factor with Sieve

Outro

Floor/ceil

Instance of mobius

LCM

Number Theory - Topic Stream - Number Theory - Topic Stream 2 hours, 10 minutes - In case you want to support my work: [https://buymeacoffee.com/shayan\\_jahan](https://buymeacoffee.com/shayan_jahan) You. can watch all the topic streams in this playlist: ...

Greatest Common Divisor (GCD)

Sieve of Eratosthenes

Least Common Multiple (LCM)

Modular Arithmetic

Harmonic Series

Complete Number Theory Practice - Noob to Expert | Topic Stream 9 - Complete Number Theory Practice - Noob to Expert | Topic Stream 9 5 hours, 25 minutes - Here's the link to the pre-stream **tutorial**, on the topic, which also has the problemset: ...

Spherical Videos

Prove that  $\gcd(a, b) = \gcd(a - b, b)$

Solving 1458A from Codeforces

Intro + tip

$O(\lg a)$  Algorithm to Calculate GCD

Binary exponentiation

Divisors

Number Theory for Beginners - Full Course - Number Theory for Beginners - Full Course 2 hours, 32 minutes - Learn about **Number theory**, (or arithmetic or higher arithmetic in older usage) in this full course for beginners.

**Number theory**, is a ...

The Hardest Math Book Every Programmer Needs - The Hardest Math Book Every Programmer Needs 2 minutes, 40 seconds - This is a classic book on Discrete Mathematics. It is definitely the hardest discrete math book I've ever seen. Here it is ...

Divisor finding

Extended Euclidean (kinda)

Basic/Intermediate Number Theory || Indian Programming Camp 2020 - Intermediate Track || Surya Kiran - Basic/Intermediate Number Theory || Indian Programming Camp 2020 - Intermediate Track || Surya Kiran 2 hours, 3 minutes - In this class, Surya Kiran will cover topics which are basic/intermediate in **Number theory**, like modular arithmetic, Fermat's ...

Modular "division"

Modular Arithmetic Operations

Prime factorization

Conclusion

L00: Number Theory Course Overview | NT 2025 Course - L00: Number Theory Course Overview | NT 2025 Course 8 minutes, 22 seconds - Hello guys, this is #codencode, in this lecture we will go through the course outline for **Number Theory**, (2025) updated course.

Intro

Prove that  $a \% b$  is Less than  $a / 2$

Definition of GCD

How to prepare for Number Theory at Math Competitions and the International Math Olympiad? - How to prepare for Number Theory at Math Competitions and the International Math Olympiad? 4 minutes, 59 seconds - The list of topics a **number theory**, book has to cover: Divisibility Remainders and Modular Arithmetic Fundamental Theory of ...

The Math Needed for Computer Science (Part 2) | Number Theory and Cryptography - The Math Needed for Computer Science (Part 2) | Number Theory and Cryptography 8 minutes, 8 seconds - STEMerch Store: <https://stemerch.com/> If you missed part 1: <https://www.youtube.com/watch?v=eSFA1Fp8jcU>

Support the ...

Number Theory Basics for Competitive Programming - Number Theory Basics for Competitive Programming 1 hour, 6 minutes - In this video, we cover two powerful approaches for solving **Number Theory**, based problems: Sieve Techniques and Modular ...

Extend the Fact to  $\gcd(a, b) = \gcd(a \% b, b)$

Number Theory for Beginners: GCD, LCM, Prime Factorization

Modular Arithmetic! - Number Theory for Beginners: GCD, LCM, Prime Factorization

Modular Arithmetic! 6 minutes, 45 seconds - Dive into the fascinating world of **Number Theory**,! This video is your ultimate **guide**, to understanding the fundamental concepts ...

Applications of Prime Factorization

Prime Factorization

Simple Algorithm to Calculate GCD

Search filters

LCM Applications

Keyboard shortcuts

Solving 230B from Codeforces

Number Theory for Competitive Programming | Topic Stream 9 - Number Theory for Competitive Programming | Topic Stream 9 37 minutes - Tutorial, on **number theory**,, including most of the basic stuff and a few more advanced things. Note the rather unusual stream time.

Subtitles and closed captions

Number Theory

Math

Modulo

The Most Efficient Way for Beginners to Start Understanding Number Theory! - The Most Efficient Way for Beginners to Start Understanding Number Theory! 2 minutes, 29 seconds - A systematic introduction to the deep subject of **Number Theory**,, designed for beginners. Our carefully designed problems will ...

GCD Applications

Properties

Improving the Algorithm to  $O(N \sqrt{N})$

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