

Knowhow Community Prerequisite Resources

Frontend

Web-Dev:

Web Basics: [Basic Web Concepts](#)

HTML CSS:

Here, we would be learning about the basics of HTML and CSS. I would personally recommend the freecodecamp responsive web design, a great start which will help you with the basics and make you do projects which will give you hands-on experience as well. Over the course of this, you'll make projects which will cover basics of the HTML and CSS part. And trust me, css is not a piece of cake.

[Introduction To Responsive Web Design - HTML & CSS Tutorial](#)

JavaScript:

JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. — you can bet that JavaScript is probably involved. This one-shot tutorial will cover js basics.

[JavaScript Tutorial for Beginners: Learn JavaScript in 1 Hour](#)

App Dev:

Android software development is the process by which applications are created for devices running the Android operating system. Android apps can be written using Kotlin, Java, and C++ languages using the Android software development kit (SDK).

Introduction to Android Java Basics: (Try any 1)

[Creating Our First Android App \(with APK\) | Android Tutorials in Hindi #2](#)

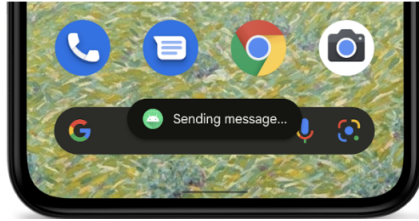
[Android App Development Complete in 1 Hour \(Hindi\) || Learn Android studio in Hindi || ...](#)

[Android Development Tutorial in Hindi](#)

Small tasks:

1. What is 'log' in android?
2. How to display any text at the bottom of the screen.

Example:



Flutter:

What is Flutter? Flutter is Google's portable UI toolkit for crafting beautiful, natively compiled applications for mobile(IOS/Android), web, and desktop from a single codebase. Flutter works with existing code, is used by developers and organizations around the world, and is free and open source.

Flutter Basics: (Try any 1)

▶ **Flutter Basic Training - 12 Minute Bootcamp**

▶ **Flutter Basics in 1 Hour - Create your First App Easily**

Data Science and Data Analytics

Data is the new oil for today's world, playing with it can definitely be advantageous.

Data science combines math and statistics, specialized programming, advanced analytics, artificial intelligence (AI), and machine learning with specific subject matter expertise to uncover actionable insights hidden in an organization's data. These insights can be used to guide decision making and strategic planning.

[Knowhow](#) to play with data, so next time girls don't play with you.

Excel:-

▶ Beginner to Pro FREE Excel Data Analysis Course

Power BI:-

▶ How to use Microsoft Power BI - Tutorial for Beginners

SQL:-

▶ SQL Tutorial For Beginners - 1 | MySQL Installation

▶ SQL Tutorial For Beginners - 2 | SELECT, WHERE, DISTINCT, LIKE, ORDER BY

Big Data:-

▶ Big Data Analytics | What Is Big Data Analytics? | Big Data Analytics For Beginners | Simplilearn

Artificial Intelligence and Machine Learning

Machine Learning, the most googled term in the previous year, everyone is fascinated towards this tech. Guess what CHATGPT is based on? Machine Learning/Deep learning

Machine learning may sound difficult because of statistics, probability and advanced mathematics, but learn it just like the Machine. Take data, pre-process it and use different techniques to get desired results.

Numpy and Pandas should be your new friendly neighbor, because in the path of Machine learning they will be your biggest buddy.

Before Starting with ML brush up your Python skills

Python Basics

▶ **Python for Beginners - Learn Python in 1 Hour**

Python Intermediate

▶ **Object Oriented Programming with Python - Full Course for Beginners**

Machine Learning

▶ **Machine Learning Fundamentals: The Confusion Matrix**

▶ **Machine Learning Fundamentals: Bias and Variance**

Web3 and Blockchain

Web3.0 has the potential to change the internet, as we know it - forever. You can be a part of the early stages of this revolution too! Sounds interesting? Here's a guide to how you can start learning about this amazing technology.

Blockchain Basics

The most common and effective method to begin your web3 journey is to start learning about the basics of Blockchain technology and how it works, as it is the very heart of Web3 technology. Saying "there are many resources available on the internet" is an understatement, but to help you filter out the ones which are precise and to-the-point, we have created a list of resources which we found beneficial in our time of learning. Here is the very beginning of the list of resources, the full list will be provided to you once you are a member of the community.

▶ What is Blockchain? | Introduction to Blockchain Technology | Blockchain Tutorial | Simp...

- Basics of blockchain, perfect to get started with understanding how blockchain works and its basic architecture.

▶ Proof of Work vs Proof of Stake vs Proof of Authority Explained | PoA vs PoW vs PoS Bl...

- Get familiar with the algorithms used while developing blockchains

Simplilearn (Youtube Channel) - Perfect for getting introduced to Blockchain technology and how it works

Cloud-Native and Cybersecurity

Cloud-Native and Cybersecurity happen to share the same set of pre-requisites and for good reasons.

Linux

You already saw this coming, didn't you? The foundational skill for anything in IT, best described as a hacker's paradise. The entire cloud-native infrastructure runs on it.

- Long and unedited but makes you enjoy the process: [Beginner Boost 2022](#)
- The Linux bible: <https://a.co/d/3aKHhHh> (do not read word-to-word)

Networking

- Couldn't ask for a better introduction to the world of computer networks: [FREE CCNA 200-301 // Complete Course // NetworkChuck 2023 - YouTube](#)
- Detailed playlist: <https://youtube.com/playlist?list=PLG49S3nxzAnlCJiCrOYuRYb6cne864a7G>

Basic understanding of cryptography

Each of these are massive topics in itself, however you only need a sound understanding of each of them. My favorite resource when it comes to cryptography are Computerphile videos featuring Mike Pound ([Computerphile - YouTube](#)).

The problem with cryptography is that you won't find a good aggregated lecture series showing you how to actually do things the practical and correct way, hence research about the topics given below on your own and once you encounter a pitfall, discuss it with me.

- Sound understanding of public key cryptography.
- Sound understanding of certificates(X.509 in particular), TLS & mTLS.
- Difference between symmetric and asymmetric encryption.
- Generating SSH keys.
- Using `gpg` to encrypt files (symmetrically and asymmetrically using key pairs).

Internet of Things

The domain sounds interesting right? Trust me, it is. Now, you gotta first understand the difference between Microcontrollers and Microprocessors. There you go! Congratulations on your first DIY.

▶ What is the Internet of Things? And why should you care? | Benson Hougland | TEDxTem...
Old is Gold, isn't it? Here is one of the best talks on IoT which will help you get a brief idea about the technology.

Arduino - A microcontroller (hope you've done the DIY well)

[New Arduino Tutorials - YouTube](#)

Here is the basic (from scratch) introduction to it.

<https://youtube.com/playlist?list=PLGs0VKk2DiYxdMjCJmcP6jt4Yw6OHK85O>

And here is one for Raspberry Pi - A microprocessor.

IoT is an endless field of rapidly growing opportunities and possibilities. Be prepared to dive deep into the future.