

# Programming Resources

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- [The Number One Skill You Need to Have to Become a Software Developer](#)
- [Four Stages of Becoming a Programmer](#)
- [Steve Jobs gives the Best Definition of Object-Oriented Programming](#)

## Python Class Text

Some of the instructional materials used were adapted and remixed under Creative Commons license <https://creativecommons.org/licenses/by-nc-sa/3.0/us> from the following books.

- [The Coder's Apprentice](#), Creative Commons, Pieter Spronck
- [Python for Everybody](#), Creative Commons, Dr Charles Severance
- [A Practical Introduction to Python Programming](#), Creative Commons, Brian Heinold

- [ISTE 1359 Introduction to Scripting Languages: Python](#), Creative Commons, Richard Baldwin

## Python Tutorials

- [A Beginner's Python Tutorial](#)
- [AskPython.com](#) (Python reference and examples.)
- [ehmatthes.github.io/pcc\\_2e/cheat\\_sheets/cheat\\_sheets/](#) (Python Cheat Sheets)
- [developers.google.com/edu/python](#)
- [Hands-on Python Tutorial](#)
- [How to Write Beautiful Code with PEP 8](#) (Python coding conventions tutorial for readable code.)
- [How To Think Like a Computer Scientist - Interactive Version](#)
- [How to Think Like a Computer Scientist](#)
- [Hitchhiker's Guide to Python](#)
- [Invent with Python](#) (*Free online Python books by Al Sweigart*)
- [ITSE 1359 Introduction to Scripting Languages: Python](#) (Excellent online book to learn Python written by a community college instructor)
- [ITSE 1359 Python Scripting](#) (Updated online course written by the same instructor.)
- [learnpython.org](#)
- [Non-Programmer's Tutorial for Python 3](#)
- [The Python Tutorial](#)
- [The Python Tutorial -- 6. Modules](#)
- [Python3 Tutorial](#)
- [Program Arcade Games With Python And Pygame](#)
- [tutorialspoint -- Python Tutorial](#)
- [RealPython](#) (Lots of great free tutorials.)
- [The Python Language Reference](#)

- [Python Scientific Lecture Notes](#)
- [The Python Standard Library](#)
- [Python Tutor](#) (Online visualization of Python and Java code execution)
- [StackOverflow.com](#) (Programming questions asked and answered.)
- [TkDocs](#)

## C++ Tutorials

- [Bucky's C++ Programming Tutorials Playlist](#)
- [classes.mst.edu/compsci1570/](#)
- [cplusplus.com](#)
- [guru99.com/cpp-programming-tutorial.html](#)
- [programiz.com/cpp-programming](#)
- [tutorialspoint.com/cplusplus](#)
- [w3schools.com/cpp](#)

## Java Tutorials

- [How To Think Like a Computer Scientist](#)
- [java-made-easy.com](#)
- [tutorialspoint -- Java Tutorial](#)
- [w3schools.com/java](#)

## C# Tutorials

- [C# Corner](#)
- [Free Code Camp](#)
- [Microsoft Learn C#](#)
- [tutorialspoint – C# Tutorial](#)

## Video Tutorials

YouTube has lots of tutorials on almost any programming language. Each of these is a collection of tutorials for various languages.

- [30 Days of Python](#)
- [Corey Schafer](#)
- [Freecodecamp](#)
- [NeuralNine](#)
- [Programming with Mosh](#)
- [Teclado](#) (Excellent Python Tutorials)
- [Udemy](#) (Lots of great classes for low cost. They have sales all the time.)

## Python IDE's

- [JetBrains](#) (Free Educational Licenses for all their professional development tools, including Pycharm.)
- [PyCharm Community Edition](#) (Open source free edition)
- [Thonny](#) (Python IDE for beginners, has visual debugging)
- [Visual Studio Code](#) (Open source Python and other languages code editor from Microsoft)
  - [Visual Studio Code Tutorials](#) (Python)

## Java IDE's

- [Eclipse](#) (Open source IDE with JSP web and GUI builder)
- [IntelliJ IDEA](#) (Open source free community edition)
- [JetBrains](#) (Free educational Licenses for all their professional development tools, including IntelliJ.)
- [JGrasp](#) (Simple Java IDE)
- [Visual Studio Code](#) (Open source IDE sponsored by Microsoft)
  - [Visual Studio Code Tutorials](#) (Java)

## Visual Studio Community Edition

- [visualstudio.microsoft.com/vs/community](https://visualstudio.microsoft.com/vs/community)

## Online IDE's

- [CodeSkulptor3](https://codeskulptor3.org/) (Collaborative Online Python editor)
- [CodePen](https://codepen.io/) (Online HTML, CSS, Javascript editor)
- <https://wandbox.org/> (C++ compiler)
- [Compiler Explorer](https://compiler-explorer.com/) (C++ compiler)
- [Online GDB](https://onlinegdb.com/) (Online IDE for almost any language)
- [Repl.it](https://repl.it/) (Online IDE for almost any language)
- [Skulpt](https://skulpt.org/) (Online Python interpreter)
- [TIO](https://tio.run/) (Try It Online)
- [Trinket.io](https://trinket.io/) (Online Python IDE)

## JSON to Java and C# POJO Converters

- [codebeautify.org/json-to-java-converter](https://codebeautify.org/json-to-java-converter)
- [json2csharp.com/json-to-pojo](https://json2csharp.com/json-to-pojo)

## Robotics & Microcontrollers

- [Adafruit](https://www.adafruit.com/) (Microcontroller parts and lots of good tutorials)
- [Arduino](https://www.arduino.cc/) (The Arduino IDE)
- [Banggood](https://www.banggood.com/) (Chinese supplier of microcontroller components)
- [Gearbest](https://www.gearbest.com/) (Chinese supplier of microcontroller components)
- [A Gentle Introduction to Robotics](#): Volume 1: mBlock and the mBot, Charles McKnight
- [Hackster](https://www.hackster.io/) (Microcontroller tutorials and projects)
- [Instructables](https://www.instructables.com/) (Microcontroller tutorials and projects)

- <http://learn.makeblock.com/en/makeblock-app> Control and program your robot with bluetooth from a portable device.
- <http://learn.makeblock.com> Learning resources for the mbot.
- <http://forum.makeblock.com> MakeBlock user forums.
- [mBlock](#) software for programming from a computer
- [Makeblock](#) (Home of the might mBot)
- [MagPi Magazine](#) (Free magazine about the Raspberry Pi)
- [Sparkfun](#) (Microcontroller components and lots of good tutorials)

## ASCII Art

- [ASCII Art](#) (Decorate your console programs)
- [GetEmoji.com](#) (Put some emojis in your code.)
- [Pixabay.com](#) (Free images for programs)
- [Unicode Tables](#) (Add some 📄 😊 🚗 🏠 to your code.)

## Free Public Web API's

- <https://any-api.com>
- <https://apilist.fun>
- <https://github.com/public-apis/public-apis>
- <https://mixedanalytics.com/blog/list-actually-free-open-no-auth-needed-apis>
- <https://public-apis.io>
- [jsonplaceholder.typicode.com/](https://jsonplaceholder.typicode.com/) (Test API with fake JSON data)