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# Chapter 1.1: Computing

* **Code** is commands given to a computer in order to perform some task.
* A **line of code** is generally a single command.
* A **program** is a collection of lines of code that serves one or more overall functions.
* **Input** is data that is fed into a program for it to operate
* **Output** is what the computer provides in return after running some lines of code
* **Compile**ing code is translating human-readable computer code into instructions the computer can execute. In the programming flow, this functions as a check on the code the user has written to make sure it makes sense to the computer.
* **Execution** is running some code and having it actually perform its operations.
* **Control Structures** are lines of code that control other lines of code.
* Setting up:
  + The book covers four different options for writing and running code:
    - Writing files in a text editor like [Notepad++](https://notepad-plus-plus.org/) or [Sublime Text](https://www.sublimetext.com/), and running them using commands in the command line.
    - Using a desktop development environment like [PyCharm](https://www.jetbrains.com/pycharm-edu/download/) or [Netbeans](https://netbeans.org/" \t "[object Object]), which organizes both writing and running code.
    - Using a web-based development environment like [Vocareum](https://vocareum.com/" \t "[object Object]) or [Skulpt](http://www.skulpt.org/), which organizes writing and running code directly in your browser.
    - Using Python's interactive mode, which is like a fancy calculator. This is part of the [Python installation](https://www.python.org/downloads/) under the name IDLE, or can also be used through services like [Python.org](https://www.python.org/shell/) and [IPython](https://www.pythonanywhere.com/try-ipython/).
* Additional Resources
  + [Foreword to How to Think Like a Computer Scientist: Learning with Python 3](http://openbookproject.net/thinkcs/python/english3e/foreword.html): A great write-up to some of the benefits of learning Python as a first programming language.
  + [Paul Ford, "What is Code?"](http://www.bloomberg.com/graphics/2015-paul-ford-what-is-code/): A ground-breaking article published on coding and software development that provides insights not only into the history but also the culture.
  + [Learn Python the Hard Way](https://learnpythonthehardway.org/book/): Zed A. Shaws seminal work on Python programming.
  + [The Python Programming Language](http://interactivepython.org/courselib/static/thinkcspy/GeneralIntro/ThePythonProgrammingLanguage.html), from How to Think Like a Computer Scientist
  + For additional practice through the course, check out:
  + [Code Academy's Python Course](https://www.codecademy.com/learn/python): Free, interactive coding practice.
  + [Google's Python Course](https://developers.google.com/edu/python/): Free Python lessons and exercises.
  + [CS50](https://cs50.harvard.edu/): Harvard University's Introduction to Computer course, also here on edX.
  + For other help via discussion boards and forums, check out:
  + [Stack Overflow](http://stackoverflow.com/): The place where developers ask other developers things.
  + [GitHub](https://github.com/):A collaborative repository for coding and developing.

# Chapter 1.2: Programming

* **Programming:** writing code through and iterative process of writing lines of code, attempting to execute them, and evaluating the results

# Chapter 1.3: Debugging

# Chapter 2.1: Procedural Programming

# Chapter 2.2: Variables

# Chapter 2.3: Logical Operators

# Chapter 2.4 Mathematical Operators