Lesson 1:

1. Introduction

Dave Evans = Instructor

Goal = Learn about computer science, and build a web search engine.

To build a search engine, we need to find data by crawling web pages, build an index to respond quickly to search queries, and rank pages so the most relevant ones appear first.

Units 1-3 = web crawler

Units 4-5 = respond to queries

Unit 6 = rank results

1. Advice from Sergey Brin

Most important thing is to have a good, fun corpus. Internet, books, email, etc.

1. Unit 1: Getting Started – Extracting the first link.

Start from a seed, find a bunch of links from that original seed.

1. Quiz: First Quiz
   1. Check understanding
   2. Don’t count towards the grade

What is the goal of Unit 1?

Great job! We're going to get started programming, learn some computer science concepts and collect a link from a web page!

1. What is Programming?

Computer needs a program to do something we want.

Python = interpreter

1. Quiz: What Is a Program?
   1. A web browser
   2. The Python interpreter
   3. Calendar app on a phone
   4. The Python code in the class
2. Quiz: First Programming Quiz

print 7 \* 7 \* 24 \* 60

1. Congratulations!
2. Quiz: Language Ambiguity

Natural languages like English can be interpreted in many different ways.

It depends on how you interpret the question. Biweekly can happen either twice a week or once every other week.

Verbosity, natural languages are lengthy for code.

1. Grammar

Noun -> Cookies

John Backus was the lead designer of Fortran programming language in the 1950s at IBM.

1. Backus Naur Form

Purpose = be able to precisely describe exactly the language that is simple and concise.

<Non-terminal> -> replacement

Derivation = starting from non-terminal, follow rules to find just terminals.

1. Quiz: Backus Naur Quiz

Great job! You got it right! Python Eat Cookies and Python Eat Python both follow the Subject Verb Object grammar!

1. Quiz: Python Expressions

Python is stricter than English.

3

(1\*(2\*(3\*4)))

(((7)))

1. Quiz: Speed of Light

print(299792458 \* 100 \* 1.0/1000000000)