Code for Teachers

A practical approach to programming

Chapter 3-4: Lesson: RPS

Basic Concepts

- We're going to reproduce Rock, Paper, Scissors
- Translating rules of games into code
- Using the right data type for the job at hand

Program Design

- Ask the user for a choice of rock, paper, or scissors
  - Check to make sure the user gave us sane input
- The computer randomly chooses r, p, or s
- Choose a winner and print the result

Randomly?!

- We don't know how to do one of those things: `random`
- For this, we need to import our first external Python module
- Python has several modules besides its core library
- The `random` module gives us several methods to do…random stuff
  - We'll be using `random.choice()` that returns a random element of a list

Lesson Design, Pt. 1

- Students describe/diagram the rules of RPS
- Identify parts that are clearly translatable into code
- How to decide a winner?
  - Simple if-else
    - That's super long
    - Think of all possible outcomes
  - Is there another way?

Lesson Design, Pt. 2

- Can we extend the rules?
    - While keeping the game balanced?
- Can we use a loop to keep the game running more than once?
- Can students create their own games?

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