

# Interactive Programming

- Open your Terminal and run **python**
- You can now write **Python** code *interactively!*
- Enter each of these lines precisely and press enter after each:
  - `110`
  - `110 + 100`
  - `"hello"`
  - `"hello" + "world"`
  - `quit()`
- Congrats, you've written your first lines of code!

# Interactive "**REPL**" vs. Stored Programs (1 / 2)

- You just wrote code *interactively* in a REPL console. REPL is short for:
  - **Read** - when you press enter the computer "reads" your input
  - **Evaluate** - it then takes your input and interprets it as Python code
  - **Print** - the result is then printed back to you in the REPL
  - **Loop** - you can type in another command and the process repeats
- Programming in a REPL is wonderful for learning and tinkering
- When you **quit()** the Python REPL, though, the work in it is lost
  - If you wanted to recreate it, you'd have to type it out all over again

# Interactive "REPL" vs. **Stored Programs** (2 / 2)

- We will primarily "**Stored Programs**" saved in files
- A **stored program** is a text file of lines of code like you'd write in a REPL
- However, the code in your **stored program** is **not immediately evaluated**
- When you **save** and **execute** your program, the computer works through each line of code as though you typed every line into the REPL.
- Stored programs enable larger programs you can reuse and share
  - When you restart your program, all your **saved** code is reevaluated from scratch.