

You can access these slides on the course Github:
<https://github.com/natrask/ENM1050>

ENGR 1050

Intro to Scientific Computation

**Lecture 07 – Writing code with AI and building animations
(continued)**

Prof. Nat Trask
Mechanical Engineering & Applied Mechanics
University of Pennsylvania

Today
Using AI and Vscode
Toward Animations

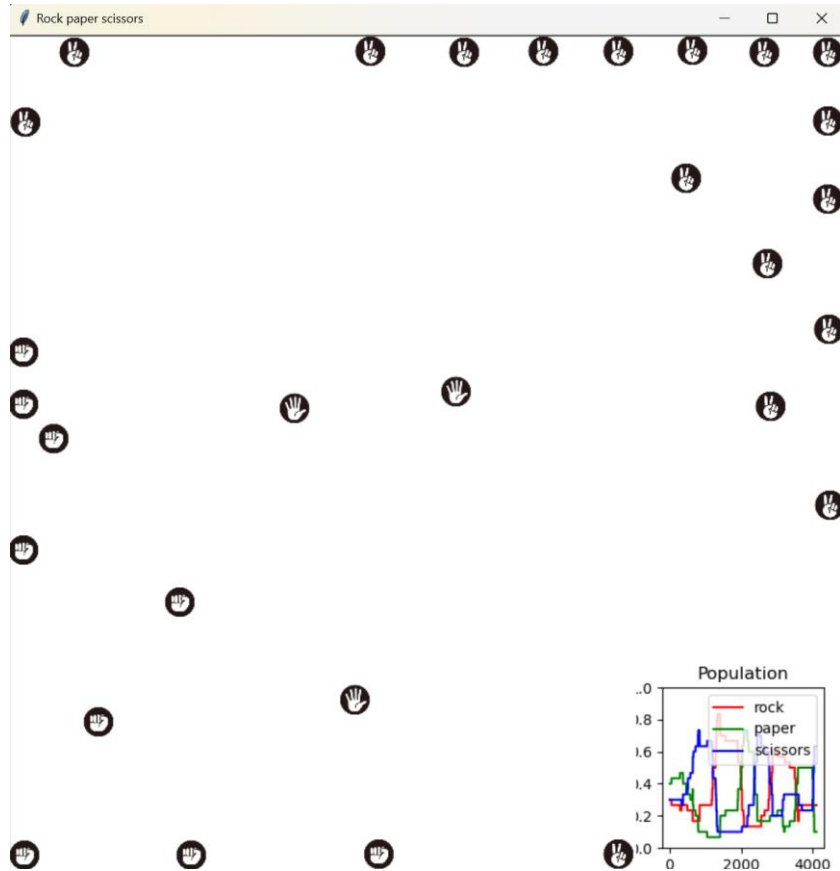
Underestimated time to set up vscode

This week's exercise



Lotka-Volterra model of population dynamics

What we are building toward.



Using AI

- Today we'll show explicitly a healthy way to incorporate AI into your code writing
- Two flavors:
 - AI-enabled code completion
 - Interactive prompts with a large language model
- We'll use Gemini (Google's model embedded in G-suite)
- Chat-GPT is another free alternative. Paid include Claude and co-pilot.

Warning

All LLMs are **frequently** wrong

**We will use them to help us understand other peoples code
and to get basic syntax for common tasks**

VSCode on your personal machine

- We have finally hit the limits of colab.
- Today I'll give a brief intro to VSCode
- I'll demo what it can do right now
- Things to be aware of
 - It will be intensive to get it stood up on your computer
 - Come to office hours this coming week to get help setting it up
 - Different process depending on windows/mac/linux
 - Now it's our job to install different packages (oof)
- This is your only “homework” before the exam, we'll get back into the swing of things afterward

<https://code.visualstudio.com/docs/python/python-quick-start>

Steps to getting VSCode

Look at pdf on class git for step by step

Need:

- Download python
- Install python
- Install packages with pip
- Install vscode
- Install python extensions
- (as needed) Install new packages beyond defaults

In-Class 10: Graphics and animations

Follow along with Dr. Trask.

Code will be provided on git for you to play with next week.

Before you come to class next week, make sure you have VSCode set up, and that you can run the simple Hello World problem

At-Home: No assignments. Enjoy the fall break!

In-Class 11: Graphics and animations

Today we will be returning to the usual format to get a much more structured introduction to tkinter.

- **Pair up – if you don't have vscode working yet please find someone who does.**
- **I've brought more friends today to help get your environment set up.**

Submit the in-class in the usual way on canvas.