

## *Approximation Error, Growth Models, and Code Patterns*

AS USUAL, please find your name on the list of today's studio groups, find your partner(s), seat yourselves comfortably, and read through the rest of this document.

### *Today's Agenda*

We're going to talk a bit about approximation errors and different growth models before moving on to the Chapter 6 notebook.

### *Approximation Error*

What does approximation error mean? What metrics might we use to measure and report approximation errors?

### *Growth Models*

What are the different kinds of growth models we've now met?  
Which different names refer to the same things?

What did you learn about using terminology carefully?

*First Section: System and State Objects (15 minutes)*

What's the difference between a System object and a State object?  
Why are these two separate types?

In comparing the proportional growth model to the data, what do you notice? What do you wonder? What did you learn about using history to interpret what we see?

*Next Section: Factoring Out Common Code, Functions as Parameters (20 minutes)*

What is "Factoring out the update function" about? Generalize this — what strategy are we learning?

What questions or confusions do you have about passing a function as a parameter? Write them down here — we'll keep working on this.

*Reflection Questions*

1. Yesterday we asked what patterns are working well for you or not working so well. Today think about concepts, tools, strategies: What's making sense to you? What's proving more challenging?

(If there are things you want help with, please follow up with a NINJA or instructor or indicate in the worksheet survey that you'd like us to follow up with you.)

2. Now look ahead: What learning goals do you want to set for yourself for Project 1? You'll have a chance to revise these, but write down some preliminary goals now.

*Next Steps*

Before class on Monday, please do the following things:

- ☐ Write your name here: \_\_\_\_\_
- ☐ Write your name(s) of your studio partner(s) here: \_\_\_\_\_
- ☐ By tonight: Scan this worksheet and submit it on Canvas.
- ☐ Also by tonight: Submit your Chapter 4 notebook on Canvas as a link to a file on GitHub (as demonstrated in class).
- ☐ By Sunday night: Read Chapter 7 and complete the Chapter 7 reading quiz on Canvas.
- ☐ We'll meet in the STUDIOS every day next week (Monday, Tuesday, and Thursday).