

# Welcome to CSE 142!

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*Please make sure your microphone is muted.*

*If you're willing, turn on your video so we can see you!*

# You Made It!



# Thank your TAs!



# Learning Objectives

or “What ~~will~~ **did** I learn in this class?”

- **Functionality/Behavior:** Write functionally correct Java programs that meet a provided specification and/or solve a specified problem
- **Functional Decomposition:** Break down problems into subproblems that are modular and reusable, and define methods to represent those subproblems
- **Control Structures:** Select and apply control structures (e.g. methods, loops, conditionals) to manage the flow of control and information in programs
- **Data Abstraction:** Select and apply basic data abstractions (e.g. variables, parameters, arrays, classes) to manage and manipulate data in programs
- **Code Quality:** Define programs that are well-written, readable, maintainable, and conform to established standards

# (Partial) Topic List

*or another view on “What did I learn in this class?”*

- Methods
- Parameters
- Return Values
- Variables
- Types
- Loops (for and while)
- Conditionals
- Console (User) I/O
- File I/O
- Arrays
- Classes
- Inheritance
- ArrayList

# Underlying Skills

*or “What did I learn in this class without realizing it?”*

- **Computational thinking:** breaking problems down into smaller, well-defined steps that can be recombined
  - “Thinking like a computer” (Also called algorithmic thinking)
- **Testing:** determining whether or not a program works as expected
  - Requires really knowing what “as expected” means
- **Debugging:** finding and fixing errors in existing code
  - Often just as hard (or harder!) than writing the code in the first place



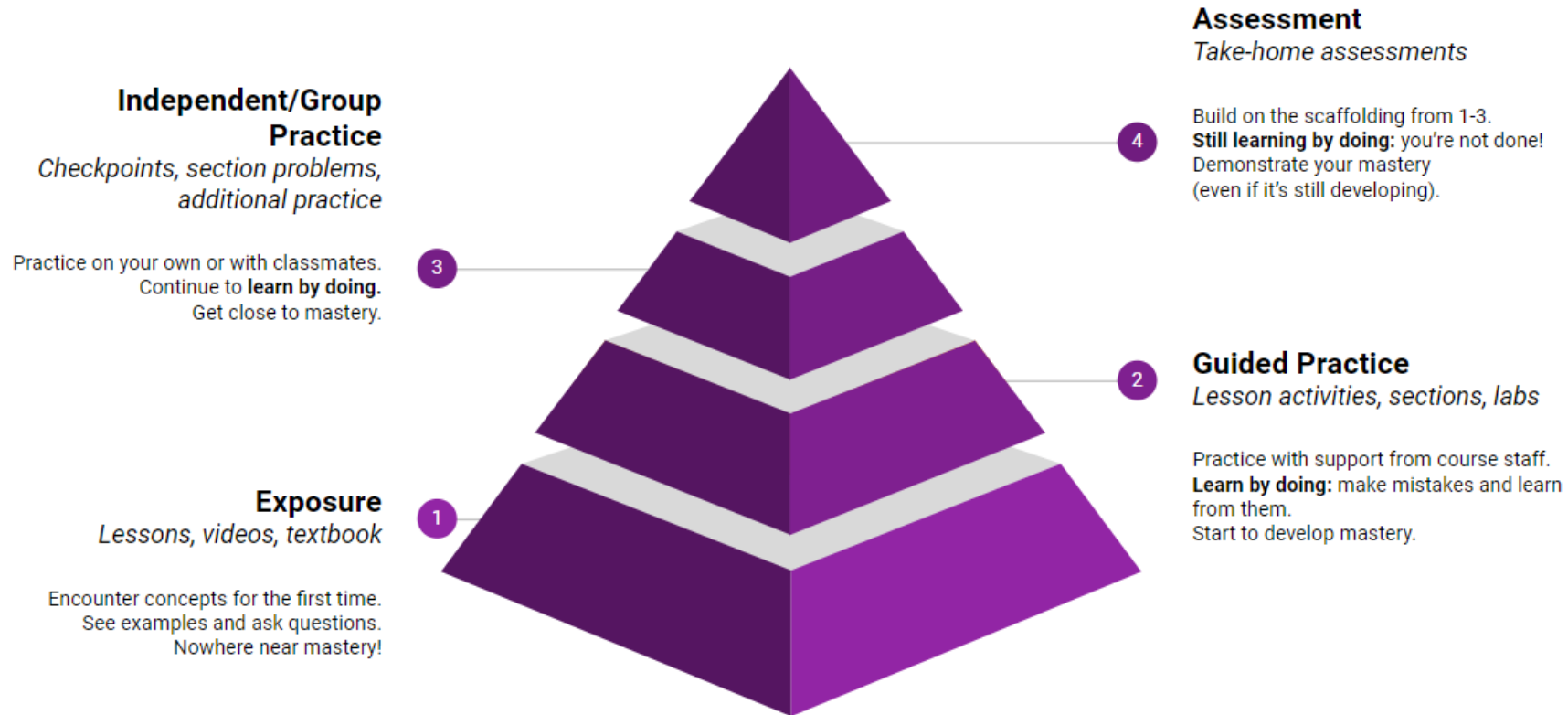
# Digression: My New Hobby

*Amigurumi*: Japanese art of creating crocheted or knitted stuffed toys





# Learning in CSE 142 (or anywhere)



# Applications of CS

*or “What can I do with what I learned?”*

- Detect and prevent toxicity online
- Digitize basketball players
- Help DHH people identify sounds
- Figure out how to best distribute relief funds
- Recognize disinformation online
- Make movies
- Improve digital collaboration
- Fix Olympic badminton
- And so much more!

# Future Courses

*or “What can I do next?”*

Course	Overview
<a href="#"><u>CSE 143</u></a> *	Intermediate programming with data structures (Java)
<a href="#"><u>CSE 154</u></a>	Introduction to web programming (several languages)
<a href="#"><u>CSE 160</u></a> *	Introduction to programming for data analysis (Python)
<a href="#"><u>CSE 163</u></a> *	Intermediate programming for data analysis (Python)
<a href="#"><u>CSE 180</u></a>	Introduction to data science (Python)

*\*offered Winter 2021*

See also: <https://www.cs.washington.edu/academics/ugrad/nonmajor-options/intro-courses>

# Frequently Asked Questions

- How can I get better at programming?
  - Practice!
- How can I learn to X?
  - Search online, read books, look at examples
- What should I work on next?
  - Anything you can think of! ([Here are some ideas](#))
  - Beware: it's hard to tell what's easy and what's hard.
- Should I learn another language? Which one?
  - That depends— what do you want to do?
- What's the best programming language?
  - 😞 (take CSE 341)

# Thank you!!!

