

CSE 121 Lesson 1: Printing and Turtles!

Matt Wang
Spring 2024



[sli.do #cse121-1](https://sli.do/#cse121-1)

TAs:	Andy	Anju	Archit	Arkita	Autumn	Christian
	Hannah H	Hannah S	Heather	Hibbah	Janvi	Jessie
	Jonus	Julia	Luke	Maria	Mia	Ritesh
	Shayna	Simon	Trey	Vidhi	Vivian	Gumball?

Today's playlist:
[CSE 121 lecture beats 24sp](#)

Announcements, Reminders

- Check out [website](#) for links to all activities, materials
- Creative Project 0 will be out tonight, due Wed Apr 3
- New Ed materials: [Sandbox](#) & [Glossary](#)
- [Matt's office hours](#) are out (incl. one today at 1:30)
- Fill out the introductory survey!
 - About 34% of the class has filled it out so far – ty <3

Aside: office hours as a resource!

The IPL (TA office hours) will open on Monday (Apr 1)

- one of the best parts of the course!!
- but: TAs are instructed to not just give you the answer!
 - why not? you wouldn't be learning!
 - developing the skill of asking good questions!
 - e.g. “my code doesn't work” versus “I tried X, expected Y, but got Z. Any thoughts on what to try next?”
- more about this on [our website](#)

Intro Survey – things we’re excited for!

“I am excited to learn more about how code can be used in real-world projects as well as develop my understanding of coding languages!”

“Learning something new that I have no experience or prior knowledge in, I might find out I love it and feel confident that that is what I want to study, and I might find it's not for me and that is also helpful in finding a major that fits me best”

“I am most excited about the creative projects.”

“JAVA!”

Reassuring worries from intro survey (1/3)

Most common: comments along the lines of...

- “I do not have any CS experience so i am nervous about my lack of experience being a disadvantage”
- “I haven’t learnt anything about coding yet”
- “Not knowing how to program”
- “coding, I have zero prior experience”

We’re all in the same boat here, and you’re in the right place!
We expect zero prior knowledge.

Reassuring worries from intro survey (2/3)

Difficulty, workload, pace, & falling behind

- recognizing that programming can be difficult (if it was easy: why have a class?)
- as a result, have built many support systems (section, IPL, office hours, Ed, etc.)
- if you feel like you're struggling: reach out early!
 - especially with pace of quarter system

Competitiveness & this class being a “weed-out” class

- explicitly not the goal of this class
- course designed against this (minimum grade guarantees, resubmissions, etc.)

Reassuring worries from intro survey (3/3)

Handwritten final

- we'll have a whole week dedicated to this, with practice finals too!

Struggling with technology / not being a computer person / Ed is new

- this can be hard (and is important)! if you're confused – please ask!
- along the way, we'll teach some small skills (e.g. searching “smart”, shortcuts)

Not being a math or STEM “person”

- in my opinion, everybody can be a math or STEM person :)
- fun fact: some of our CSE professors were originally completely different majors!!

Finding groups?

A good chunk of people asked about finding study groups!

Some thoughts:

- as you'll see today, we do lots of pair/group learning in class. Vibe well with someone? Ask them to study :)
- say hi to folks in section, office hours, and the IPL!
- stay tuned for more (!!)

... and some fun responses!

- “I think Atlanta Millionaires Club was better than Undressed at the Symphony tbh :)”
- “I love Laufey and I can't wait to get to know you more in office hours! :)”
- “The lecture beats are sick”
- “The country Cameroon is named for shrimp”
- “I'm very excited to learn and be part of this class!”

Escape Sequences

escape sequence: A special sequence of characters used to represent certain special characters in a string.

- `\"` to produce `"` in a String
- `\\` to produce `\` in a String
- `\n` to produce a new line character (or line break) in a String
- And there are more!

Activities in Class

- **Goal:** To get you actively participating in your learning!
- May ask you to think and volunteer a suggestion
- May ask you poll in with a response (via slido)
- *Not graded* but strongly encouraged to maximize your learning and use of class time!

- Common Format: **Think, Pair, Share**
 - Question is posed
 - **Think** about the question on your own
 - **Pair** up with your neighbor and discuss the question
 - Focus on *how* you arrived at your answers, whether they're the same or different!
 - **Share** what you discussed with the rest of the class!

Poll in with your answer!



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How many lines of output would the following code produce?

```
System.out.println("hello");  
System.out.print("moi");  
System.out.print("bonjour");  
System.out.println("pryvit");  
System.out.print("nihao");  
System.out.println("hola");
```

- a) 1
- b) 2
- c) 3
- d) 5
- e) 6



Turtle Time!



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Turtles!

```
Turtle donatello = new Turtle();
```

Method	Description
<code>forward(<i>n</i>)</code>	Moves the turtle forward by <i>n</i> steps
<code>backward(<i>n</i>)</code>	Moves the turtle backward by <i>n</i> steps
<code>right(<i>d</i>)</code>	Turns the turtle right by <i>d</i> degrees
<code>left(<i>d</i>)</code>	Turns the turtle left by <i>d</i> degrees
<code>speed(<i>ms</i>)</code>	Sets the number of milliseconds it takes for the turtle to perform an action (e.g., if <i>ms</i> is 1000, then it will take the turtle 1000 ms = 1 second to perform an action like moving forward or turning).
<code>up()</code>	Picks up the turtle's pen so it doesn't draw when it moves
<code>down()</code>	Puts the turtle's pen down so it draws when it moves
<code>width(<i>w</i>)</code>	Sets the width of the turtle's pen to <i>w</i> pixels wide
<code>penColor(<i>c</i>)</code>	Sets the color of the turtle's pen to <i>c</i>

Poll in with your answer!



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Assuming we have created a Turtle named donatello, what do you think the following commands would end up drawing?

```
donatello.left(90);  
donatello.forward(30);  
donatello.right(135);  
donatello.forward(40);  
donatello.left(135);  
donatello.forward(30);
```

- a) A circle
- b) A triangle
- c) The letter M
- d) The letter N
- e) A star



Food for Thought



A weekly section where I introduce open problems related to our lecture topic(s) of the week.

Goals:

1. give you “conversational familiarity” with CS terminology
2. see how CS interacts with other fields and people!
3. point you in the direction of more CSE (or adjacent) classes

Note: not tested content. Just food for thought :)

Accessibility: can everyone use Turtle? (1/2)

Hint: have you heard of the term “alt text”?

How is it relevant here?

Accessibility: can everyone use Turtle? (2/2)

Hint: have you heard of the term “alt text”?

How is it relevant here?

Bigger picture question: how do blind (and non-sighted) people use computers?

Accessibility: what's next? (1/3)

In your C0 reflection, you'll experiment with one possible solution to this problem. But, it's far from complete:

- there are many more types of access needs than what we've discussed today
- we don't have enough CS knowledge to dive deep (yet!)

We'll talk about accessibility again in the future
– including in future lectures, assignments, & reflections!

Accessibility: what's next? (2/3)

About 1 in 4 Americans (~40-60 million) have a disability ([CDC](#), [Census](#))

And much of modern life requires computers!

So, this is a problem that matters, whether or not you become a computer science major, write code for a living, etc.

Accessibility: what's next? (3/3)

UW (and UW CSE) has some absolutely stellar folks who work on accessibility, and ways to get involved!

- Jen Mankoff's [CSE 493E: Accessibility](#)
- the [Quorum](#) language
- UW [CREATE](#), [AccessComputing](#), [Disability Studies](#), [ASL Minor](#)

Bottom line: Explore and be curious!
(and reach out if you want to learn more!)

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