TECHNOVATI N



Welcome!

Team Introductions

Agenda

- What is Technovation?
- Club Contract
- Spotlight
- Pre-course survey
- Set up CodeHS account
- Introduction to Python and Tracy the Turtle
- Coding challenges

What is Technovation?

- A. A 9-week coding course introducing the basics of Python
- B. An opportunity to improve as a problem solver and thinker
- C. A chance to make new friends
- D. A chance to have fun
- E. All of the above!





What is Technovation?

```
Introduction to Python and Turtle Graphics
Week 1 (09/24)
                 Variables
Week 2 (10/2)
                 Loops
Week 3 (10/9)
                 Review
Week 4 (10/16)
                 Functions
Week 5 (10/23)
                 Functions W/ Loops
Week 6 (10/30)
                 Review + Begin Final Project
Week 7 (11/6)
                 Continue Final Project
Week 8 (11/13)
                 Present Final Project + Final Celebration
Week 9 (11/20)
```

<u>Syllabus</u>

Club Contract

We want all of you to help us make a club contract to follow for the next 9 weeks.

What rules should we have to make our club better and have a more fun learning environment?

Spotlight



What Most Schools Don't Teach

- Why do you want to learn to code?
- How do you hope to use computer science in the future?

Pre-Course Survey

https://forms.gle/n8ocPLUxAcBuXQ9e7

ICEBREAKER

- 1. What do you enjoy doing on your free time?
- 2. What's your favorite tv show?
- 3. Do you have any pets?

CodeHS Setup

https://codehs.com/go/70D8E

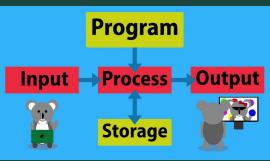
- 1. Go to the link above
- 2. Create an account with:
 - a. Your school email address
 - b. A password you won't forget!
- 3. Explore!

What is Programming?

"A **computer program** is a collection of instructions that performs a specific task when executed by a computer."

-Wikipedia





What is Python?

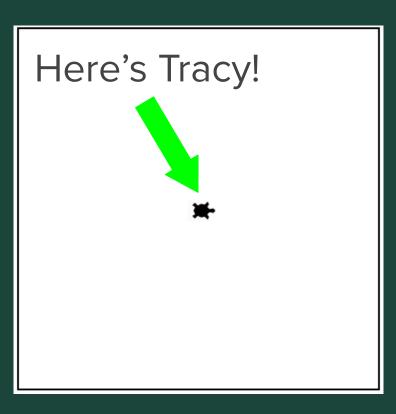
"Python is a general purpose and high level **programming language**. You can use Python for developing desktop applications, websites and web applications."

-Medium





Who is Tracy?

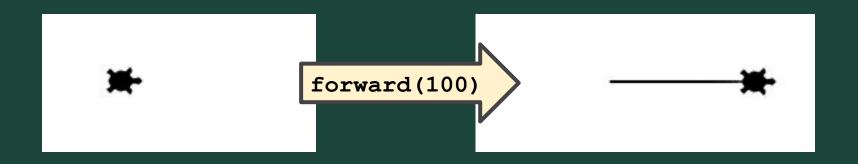


Tracy is a turtle that will follow commands that we give her written in python

Tracy Command: forward

forward (distance)

Moves Tracy forward a specified distance



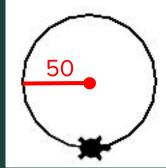
Tracy Command: circle

circle (radius)

Tells Tracy to draw a circle with a specified radius

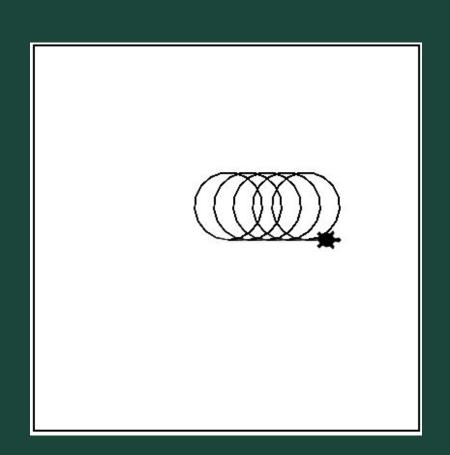


circle(50)



Example #1: Slinky

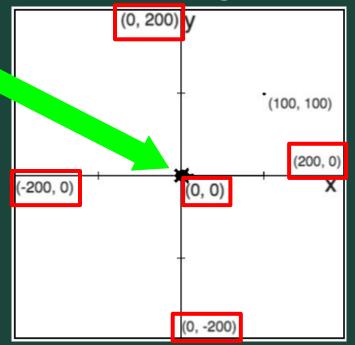
Write a program that has Tracy draw a slinky with 5 loops.



Where Does Tracy Live?

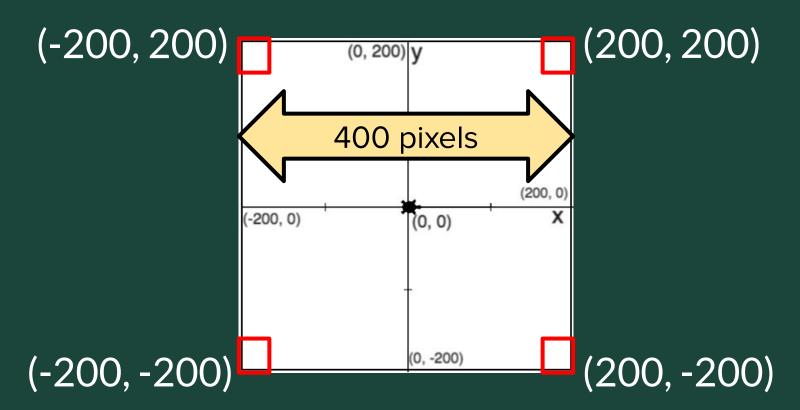
Tracy lives in a grid world.

Tracy's home!

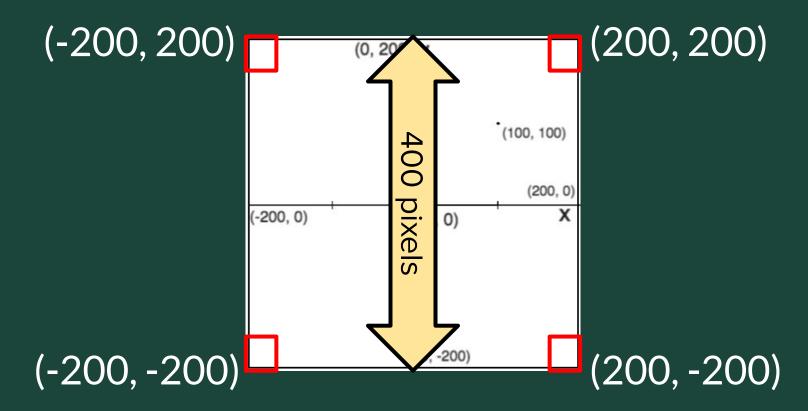


Tracy **always** starts at (0, 0).

Tracy's Grid World



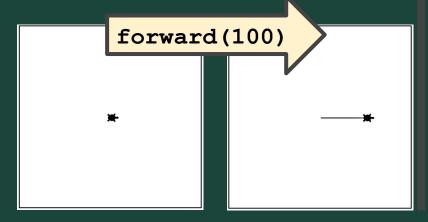
Tracy's Grid World



Tracy Command: backward

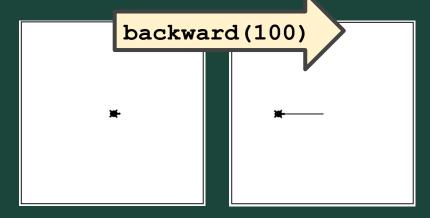
forward(distance)

Moves Tracy forward a specified distance



backward(distance)

Moves Tracy backward a specified distance

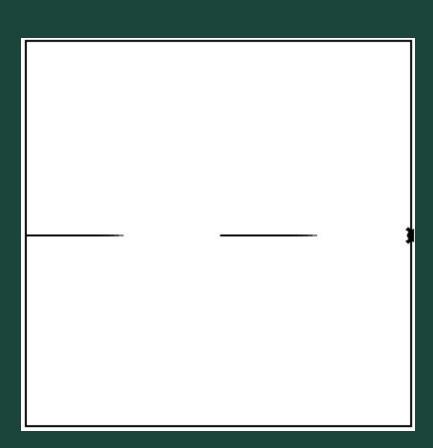


Tracy Command: penup and pendown

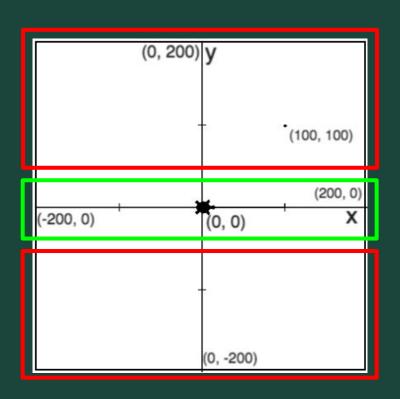
pendown() penup() **Stops Tracy from** Has Tracy start leaving a trail drawing a trail pendown() penup() forward(100) forward(100) Note: Tracy always starts with her pen down!

Example #2: 2 Dashes

Write a program that has Tracy draw 2 dashes across the x - axis of the canvas.

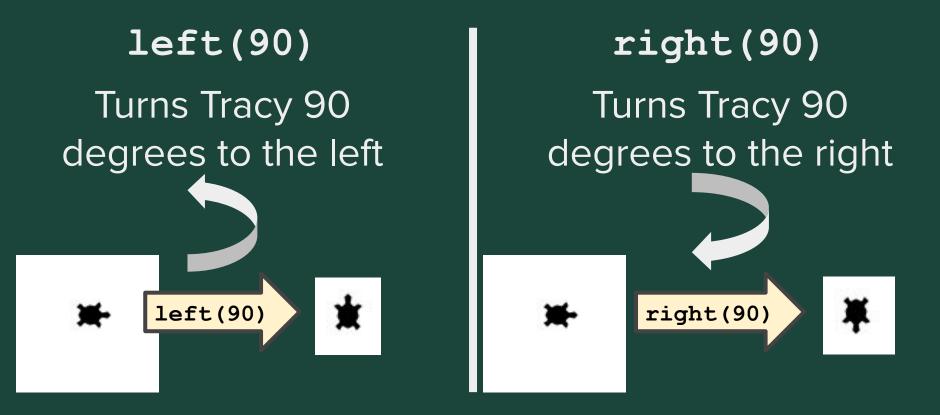


Turning Tracy



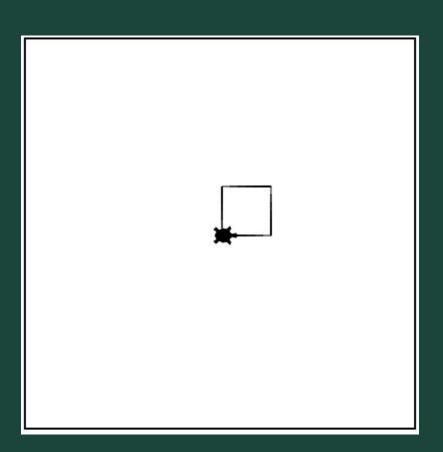
Tracy **always** starts facing right.

Tracy Command: left and right

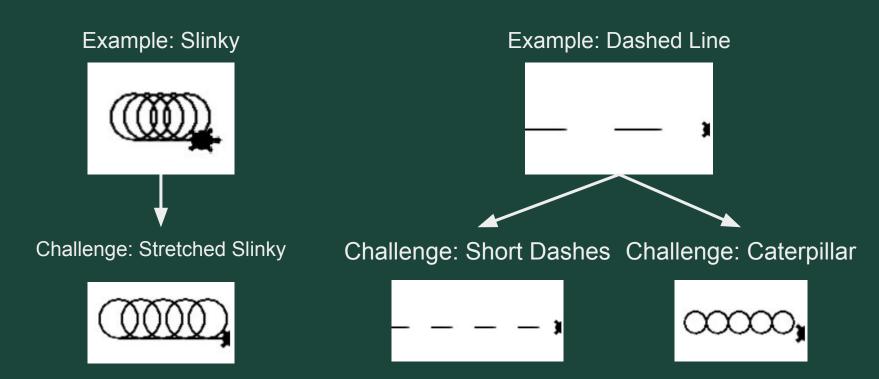


Example #1: Square

Write a program that has Tracy draw a square with sides of 50 pixels.



Coding Challenges



Ready, Set, CODE!

Command	What does it do?
forward(distance)	Moves Tracy forward a specified distance
circle(radius)	Tells Tracy to draw a circle with a specified radius
backward(distance)	Moves Tracy backward a specified distance
penup()	Stops Tracy from leaving a trail
pendown()	Has Tracy start drawing a trail
left(90)	Turn Tracy 90 degrees to the left
right(90)	Turn Tracy 90 degrees to the right

Surveys!

- Pre-survey
 - https://forms.gle/n8ocPLUxAcBuXQ9e7
- Attendance
 - https://forms.gle/5wK9mDnpKD1YdUBM6
- Temperature Check
 - https://forms.gle/2RFvixVSe7C5vzzz5

Standup

- What is a challenge you faced today?
- What is something you were successful with?
- What do you want to improve on for next week?
- What are you most excited to learn?

Reminders!

- Sign up for Remind
 - Text "f21tech" to 81010
- Bonus Hours!
 - Thursdays 7-8pm
 - Starts next week! (10/7)

