WELCOME TO

TECHNOVATION

Week 7: November 5th

MICHIGAN STATE UNIVERSITY

Agenda

- Review
- Spotlight
- Starting our Final Project
  - Overview
  - Example
  - Planning and Designing
- Attendance and Temperature Check

Review: Drawing Basics

Command	What does it do?
`left(90)`	Turns Tracy 90 degrees to the left
`right(90)`	Turns Tracy 90 degrees to the right
`for i in range(number):`	Initialize a loop
`left(angle)`	Turns Tracy left at a specified angle
`right(angle)`	Turns Tracy right at a specified angle
`setposition(x, y)`	Moves Tracy to a specified coordinate
`speed(number 0-10)`	Determines how quickly Tracy will move through commands

Review: Drawing Basics

Command	What does it do?
`color("color_name")`	Changes Tracy's trail color
`pensize()`	Changes Tracy's trail thickness
`begin_fill()`	Starts filling in drawn shapes
`end_fill()`	Stops filling in drawn shapes
`circle(radius, extent,steps)`	Can control the radius, degree, and number of points of a circle
`def function_name():`	Declares a function
`function_name()`	Calls a function

Useful Functions

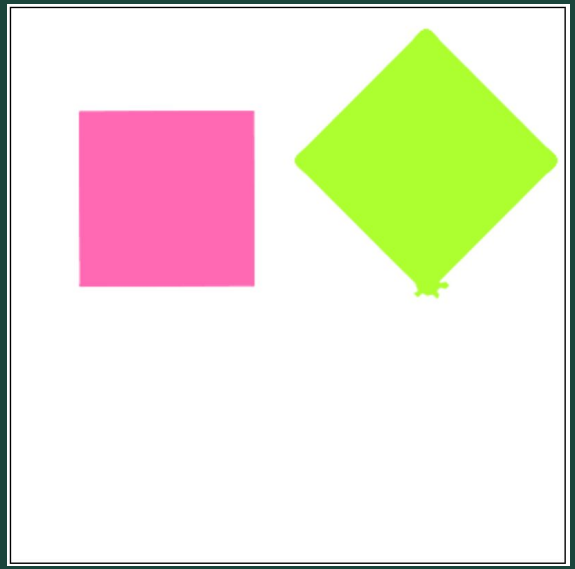
```
speed(10)

def draw_box():
    forward(125)
    left(90)
    forward(125)
    left(90)
    forward(125)
    left(90)
    forward(125)
    left(90)

penup()
backward(150)
pendown()

begin_fill()
color("hotpink")
draw_box()
end_fill()
penup()


forward(250)
pendown()
pensize(9)
begin_fill()
color("greenyellow")
circle(90,360,4)
end_fill()
penup()
```



Similarity Check!

How many things can you find in common with each other?

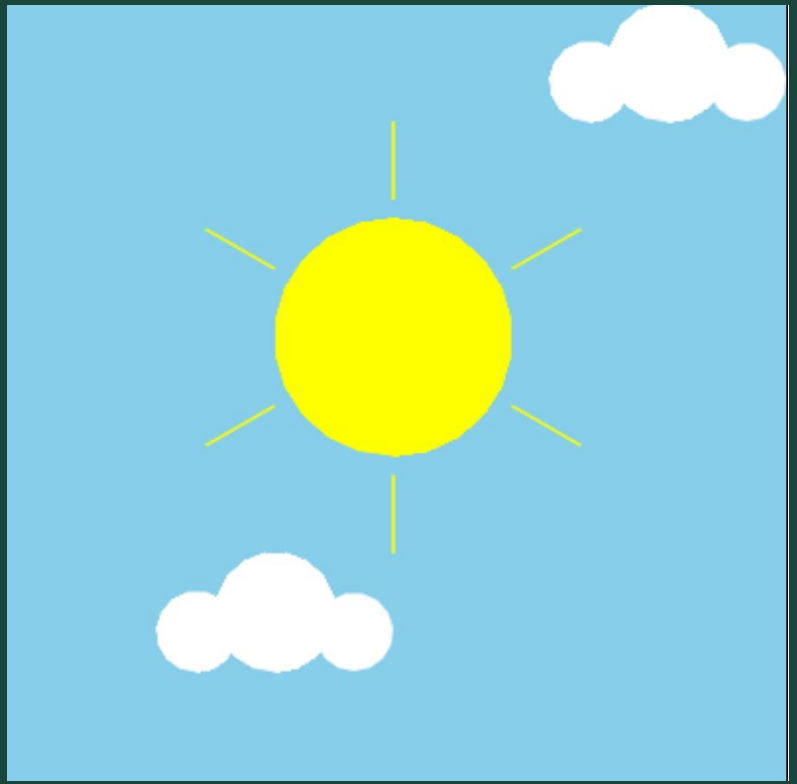
Spotlight

Final Project: Overview

- What The Last Three Weeks Look Like:
  - Week 7: Brainstorm, Plan and Design. Submit our Final Project Outlines at the end of the meeting
  - Week 8: Code, Code, Code!
  - Week 9: Present our Final Projects
- Project requirements:
  - Must have so many shapes/colours, but this is a chance for you to have creative freedom
  - If you would like you may choose to work with a partner
  - Make sure you can finish it in time! You can also work on it at home or during Bonus Hours. If you finish early you are welcome to make a second project
- Ask questions!
  - Don’t be afraid to code outside the box! If there is something you don’t know how to do, let us know and we will help you add it
- Save your work!
  - It’s a great habit to constantly click that ‘Save’ button. Because we aren’t submitting it each time, CodeHS will not automatically save your work

Final Project: Brainstorm

- Examples
  - Here is Katie's Final Project so far!
  - Check out the code here
  - Here are more examples!
- Share your ideas
  - What are you passionate about?
  - Favorite place or animal?
  - Food
  - Cool geometric shapes or patterns
  - Try spelling out words



Check In

- If we haven’t spoken to you about your ideas for the project, we will be pulling you aside in order to:
  - See what you guys plan to create
  - Make sure you have your must, should, and likes
  - Check your progress if you’ve started your code

Ready, Set, Code!

- `forward(dist)`
- `backward(dist)`
- `circle(radius)`
- `penup()`
- `pendown()`
- `setposition(x, y)`
- `left(angle)`
- `right(angle)`
- `speed(number)`
- `pensize(number)`

- `for i in range(number):`
- `def function_name():`
- `function_name()`
- `color("color")`
- `bgcolor("color")`
- `begin_fill()`
- `end_fill()`
- `variable = value`
- `variable = input("prompt")`

Standup

- How did your design process go?
- What part of your project are you most excited for?
- What do you think is going to be the hardest part of your program to code?

Attendance and Temperature Check

- Attendance
- Temperature Check