WELCOME TO

TECHNOVATION

Week 7: November 13th

MICHIGAN STATE UNIVERSITY

Agenda

- Icebreaker
- Starting our Final Project
  - Overview
  - Example
  - Planning and Designing
- Coding Time
- Temperature Check

IceBreaker - Escape Rooms

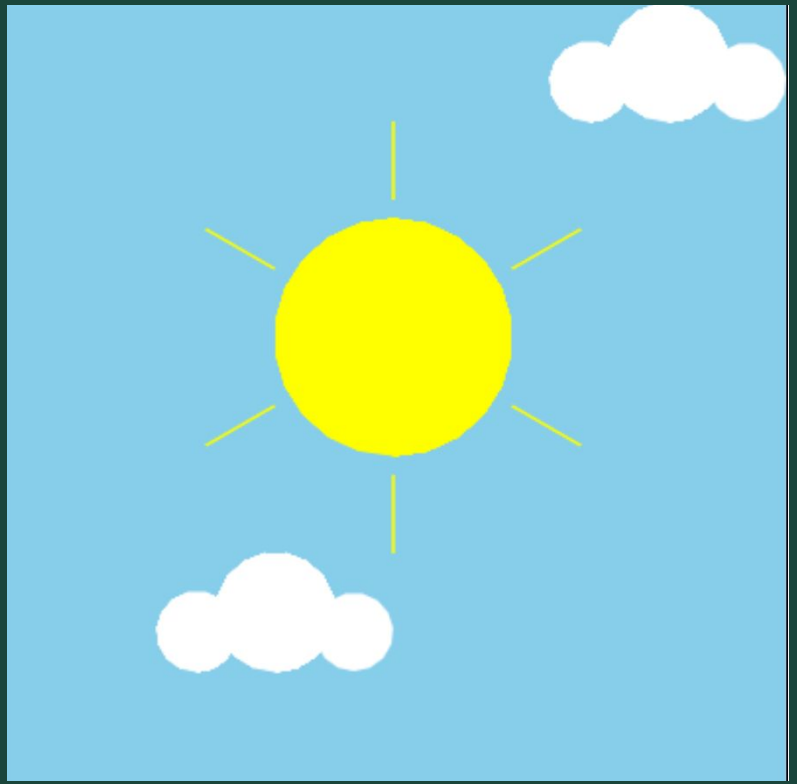
Try to find a way out!
Dog Escape
Tidy Bedroom Escape
Halloween Escape

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
  - 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

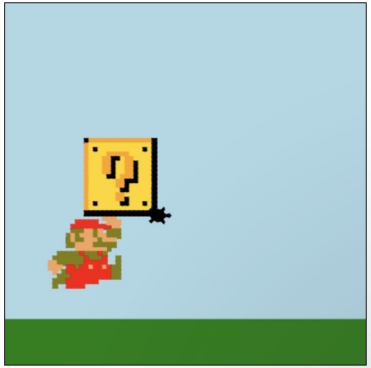
Final Project: Brainstorm

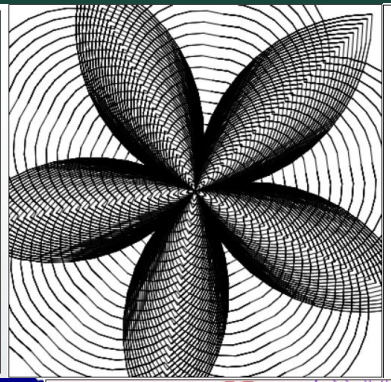
- Examples
  - Here is Katie's Final Project so far!
  - Check out the code here
  - Here are more examples!
- Share your ideas
  - What are you passionate about?
  - Favorite place or animal?
  - Food
  - Cool geometric shapes or patterns
  - Try spelling out words

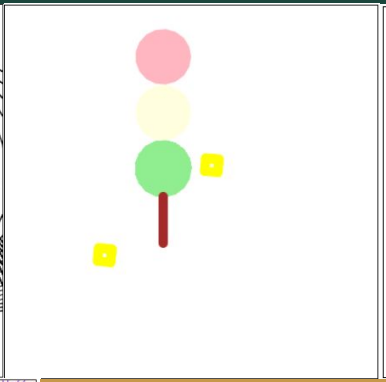


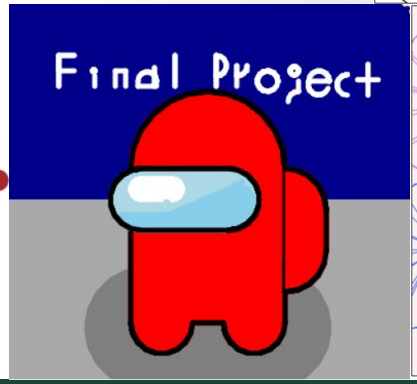
More Examples

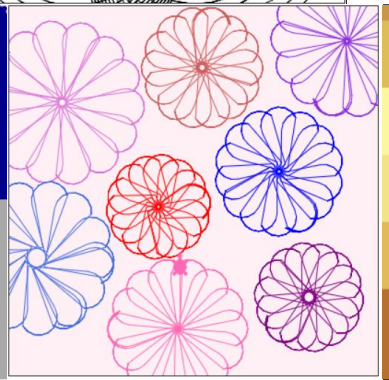
Even More Examples

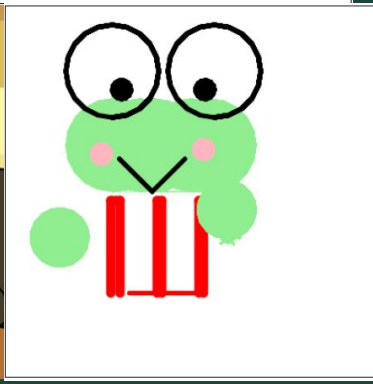












Final Project: Plan and Design

- Let's go through the Plan and Design Google Form together
  - Nothing is set in stone, we just want to put our ideas down on paper
- Create our Musts, Shoulds, and Likes
  - Musts: these things are essential to the project, we tackle these first
  - Shoulds: parts that are important to be done, but they are not required
  - Likes: details, clean up, and the cherries on top!
- When done, you are free to begin working on your Final Project
  - Don’t know where to begin? Try drawing your idea on paper with a pen, whatever part you start with is probably what you should code first
- During the rest of work time, everyone will get to share their Final Project ideas with a mentor
  - We can help build up your ideas and give feedback on your plan
  - This is where you can ask really specific questions

Ready, Set, CODE!

Command	What does it do?
`name = value`	Saves the value in the variable
`input("prompt")`	Prints prompt and waits for user input
`int(...), float(...)`	Converts a value to a number (`int` or `float`)
`for i in range(number)`	Initialize a loop
`def function_name():`	Declares a function
`function_name()`	Calls a function

Command	What does it do?
`color("color name")`	Changes Tracy's trail color
`pensize(number)`	Changes Tracy's trail thickness
`begin_fill()`	Starts tracking closed shapes
`end_fill()`	Fills & stops tracking closed shapes
`setposition(x, y)`	Moves Tracy to the input coordinates
`speed(number)`	Sets how fast Tracy executes commands
`name = value`	Saves the value in the variable
`input("prompt")`	Prints prompt and waits for user input
`int(...), float(...)`	Converts a value to a number (`int` or `float`)

Command	What does it do?
`forward(distance)`	Moves Tracy forward a specified ***distance***
`circle(radius)`	Draws 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(num)`	Turns Tracy ***num*** degrees to the left
`right(num)`	Turns Tracy ***num*** degrees to the right

Standup

- 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?

Temperature Check

- Temperature Check