

## Day 7

### Teams (Aliases):

- A: Alice and Luke
- B: John and Bob
- C: Katie and Scott and Martha

Survey link: <https://forms.gle/kRqiL2FnP9uCVxSj9>

### Pacman Previous Days' Instructions

1. CGCC Day 2:  
<https://docs.google.com/document/d/15l1lyj40ZI9Hk4wFv98oNpkEx6D7PsEflcRgfEh8r4/edit?usp=sharing>
2. CGCC Day 3:  
[https://docs.google.com/document/d/10GdXNLsxNCRCX\\_H4Ugw0zRshu9PshgqEwfH3HOs7T20/edit?ts=5f11c157](https://docs.google.com/document/d/10GdXNLsxNCRCX_H4Ugw0zRshu9PshgqEwfH3HOs7T20/edit?ts=5f11c157)
3. CGCC Day 4:  
<https://docs.google.com/document/d/1kmrGkTAZQe7nQ-JRIqVzcDKVQCC6lUXhYZX3Z6ECMoc/edit?ts=5f14f9ab>
4. CGCC Day 5:  
<https://docs.google.com/document/d/1t48Gia-dOcwU7OeqWcf7-YJ5Zo7lj7WLSO5Sx-o5eeA/edit?usp=sharing>
5. CGCC Day 6:  
[https://docs.google.com/document/d/1CZk\\_ftuzb6qx9lr7\\_YxlMorrfAwYY48hu65-wLz\\_k0g/edit?usp=sharing](https://docs.google.com/document/d/1CZk_ftuzb6qx9lr7_YxlMorrfAwYY48hu65-wLz_k0g/edit?usp=sharing)

Survey Link: <https://forms.gle/VxABuQ2yyT9AWMUv9>

### Resources:

- <https://youtu.be/9bSX9Q5aP6E>
- [https://youtu.be/\\_sXUtlG7upA](https://youtu.be/_sXUtlG7upA)
- <https://arcade.makecode.com/tutorials> (most useful).

Github Classroom

- Paige invites students to the github project: CGCC Video Game Project.
  - Students accept the project.
- Paige assigns students into teams.
- Students open the project from makecode. <http://arcade.makecode.com/beta>.
  - Click "Import" button.
  - Click "Import URL".
  - Copy-paste the link you got after accepting your github classroom invite.
- Show how to save a project from MakeCode to github repo.
  - Open up <http://arcade.makecode.com/beta>
  - Open up your most recent Pacman game.
  - Make a change to your project. Drag out a new block or something.
  - Notice the Octocat button changed to show an up-arrow. That means there's something to save to Github.
  - Press the Octocat button.
  - Introduce the Commit page.
  - Describe your changes.
  - Show the diff and what it means.
  - Press Commit.
  - Notice the Octocat button has a checkmark next to it indicating that all code is up to date on github.
- Show how to open your game without importing it.
  - Go <http://arcade.makecode.com/beta>
  - Your game will be listed in My Projects, as the leftmost item (to the right of New Project).
- Show how to keep in sync with your partners.
  - To see the changes your partner has made to your project.
    - Click on the Octocat button which now has a Down Arrow on it.
    - Click the Green Pull Changes button.
    - Press Go Back to see the changes in your project.
- What happens if you have a Commit that collides with your partner's changes?
  - Show commit conflict dialog.
  - Choose Resolve Commit.
  - This will open github.com and you should save Close Pull Request at the bottom of the screen and force your partner to accept your version of the project and try again.

#### Advice on How to work with a partner

- Set up regular times during class to check in with one another: every 10 minutes

- The more attention you give to your partner, the more welcome and included they will feel.
- Discuss: How shall we divide the work between us? What parts of the project would you like to work on?
- How should you get your partner's attention when they're not looking at you?
- How do you define success? What is our goal?
- For how long should you work to solve a difficult problem before asking your partner for help?
- For long should you both work to solve a difficult problem before asking the class instructor for help?
- Takeaway lessons:
  - Communicate.
  - Proactively.
  - As Often as You Can Stand It.

#### How to Scrum

1. 3 minute standup meeting with team
2. Commit your code to the repo
3. Teach three questions that should teams should go over each Scrum
  - a. What did you do?
  - b. Where are you stuck?
  - c. What are you going to do next?
4. If you switch tasks and the person who is editing the code,
  - a. The new person should open up the project.
  - b. Sync the current version of the code to their computer.
  - c. Start working.

Brainstorming Activity: Go through each item and develop a simple game with your partner. Write out your descriptions of each item below in your team's Google Doc (above) with your partners.

1. Choose your characters.
2. Define your narrative.
3. Pick the kind of game
4. Define the goal of the game
5. Define the game's rules.
6. Write out the requirements (what must the player be able to do?)

## 7. Design paper prototype

### Advice on How to Turn an Idea into a Actual Game

1. Draw your sprites and game tilemap **on paper** to prototype them and edit until you are satisfied with how they look.
  - a. Be as hi-fidelity as you are able to on paper. If you are “drawing” your sprite on paper, use graph paper with each pixel is a cell.
2. Draw the tilemap background for the game in MakeCode.
  - a. Draw in the walls.
3. Create your startup screen.
4. Work on one character at a time.
  - a. Create/customize sprite in MakeCode for the character.
  - b. Place the character on the screen in the start position.
  - c. Define the controls that move the character.
5. Define collisions
  - a. What happens when characters touch one another?
  - b. What happens when characters touch parts of the background tilemap?
6. How does scoring work?
  - a. Make blocks to increment the score.
7. How many lives are in the game?
  - a. Make the blocks to decrement the lives.
8. How does the player win the game?
  - a. Check for the game over condition and call the game over block.
9. Testing the game play.

### Work with Partners on Game

#### Activity

- Describe the core concept of your game in a Tweet of 135 characters or less. (Elevator pitch)

#### Brainstorming

- Characters:
  - The Fighter: A hero who fights the enemy with their fists, feet, or weapon.
    - Examples: Street Fighter, Karateka, Mortal Kombat

- The Big Bad: A dastardly villain who appears to be stronger than the hero, but has a hidden weakness.
  - Examples: Gannon, Donkey Kong
- The Sage: A mystic, an odd character allied with the hero who provides helpful hints at crucial times during the game.
  - Examples: Legon of Zelda, Skyrim, Metal Gear Solid
- The Sidekick: A companion to the hero who provides comic relief or aids the hero in solving their quest.
  - Examples: Luigi in Mario Bros, Yoshi in Mario World, Sonic 2's Tails.
- Narrative:
  - Overcoming the monster: The hero must fight and slay the monster that threatens their community.
    - Examples: Beowulf, Dracula, King Kong, Pacman, Mario Bros., Space Invaders, Asteroids, Galaga
  - Rags to Riches: An insignificant person is dismissed by others. Something happens to elevate them, revealing that person to be exceptional.
    - Examples: Ugly Duckling, Aladdin, Superman
  - The Quest: The hero must set out on a long hazardous journey to battle obstacles until they are triumphant.
    - Examples: Lord of the Rings, Harry Potter, Wizard of Oz
  - Voyage and Return: The hero travels out of their normal world into the unknown and overwhelming, before escaping back to the safety of their home.
    - Examples: Alice in Wonderland, Finding Nemo, Gulliver's Travels, Legend of Zelda, Super Mario Bros.
  - Rebirth: The hero falls under a dark spell (e.g. sleep, sickness, enchantment) before breaking free and being redeemed.
    - Examples: Sleeping Beauty, Beauty and the Beast
  - The Neverending Story: A repetitive story with infinite challenges that get more and more difficult to beat
    - Examples: Donkey Kong, Q\*bert, Tetris
- Activity: Think-Team-Share
  - With a partner, choose two characters from the MakeCode Sprite gallery. Choose one of the narratives above and create a storyline for a game in which these two characters play starring roles.
  - Activity: Show two pictures of pets/animals in your house and create a narrative that describes their relationship to one another. Use this to

develop a game storyline with these two animals. Attach the pictures to the chat in Zoom. (teach how to share files on Zoom)

- Rules: Defines how the characters can move through the game world and describes the actions they can take and their effects.
  - Navigation
    - Walking, Running, Swimming, Flying
    - Constraints to only walk up/down, left/right
  - Information
    - Reading a scroll
    - Listening to a character
  - Inventory
    - Picking up an item
    - Choosing to use an item
    - Dropping an item
    - Losing an item
  - Obstacles
    - Jumping
    - Running through
    - Punching at
  - Fighting
    - Punching at
    - Jumping on top of
    - Kicking
    - Running through
    - Round-off back handspring
  - Dying
    - Getting run over
    - Getting hit
    - Jumping into a pit
    - Running into yourself
  - Winning
    - Eating all the food
    - Defeating all the enemies
    - Solving all the puzzles
- Technology:
  - Mapping the game buttons to player actions
  - Secret game modes
    - Example: Pressing A and B buttons together makes the character invisible to monsters.

