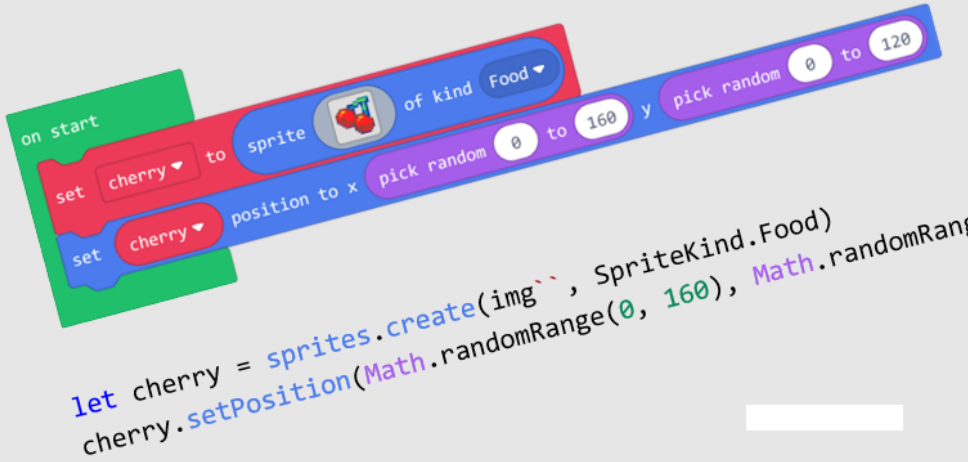
Microsoft



Microsoft MakeCode

< Instructor Name >

< Title >

How to create an Arcade Game

Microsoft MakeCode

Inspiring new generations of technology creators through immersive, hands-on computing education

Learn more
makecode.com

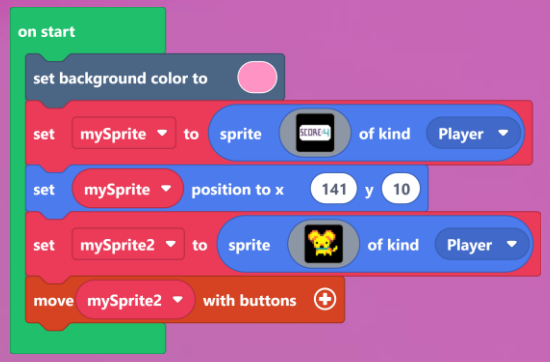
Three Main Code Editors

Physical Computing with micro:bit

Mods in Minecraft

Retro Arcade Games

Blocks



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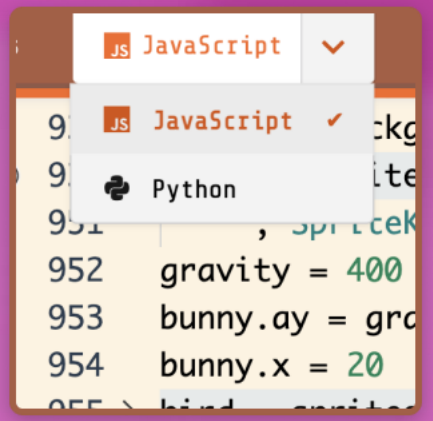


What is an Arcade game?

History of Arcade Games

An arcade game is a coin-operated video game machine installed in a public place like a restaurant, or an amusement park. Arcade games rose to popularity in the 1970's and 1980's.

The two paddles return the ball back and forth. The score is kept by the numbers (0 and 1) at the top of the screen.

The first successful Arcade game was called Pong, created by Atari in 1972.

Examples of Arcade Games?

Pac-Man

Space Invaders

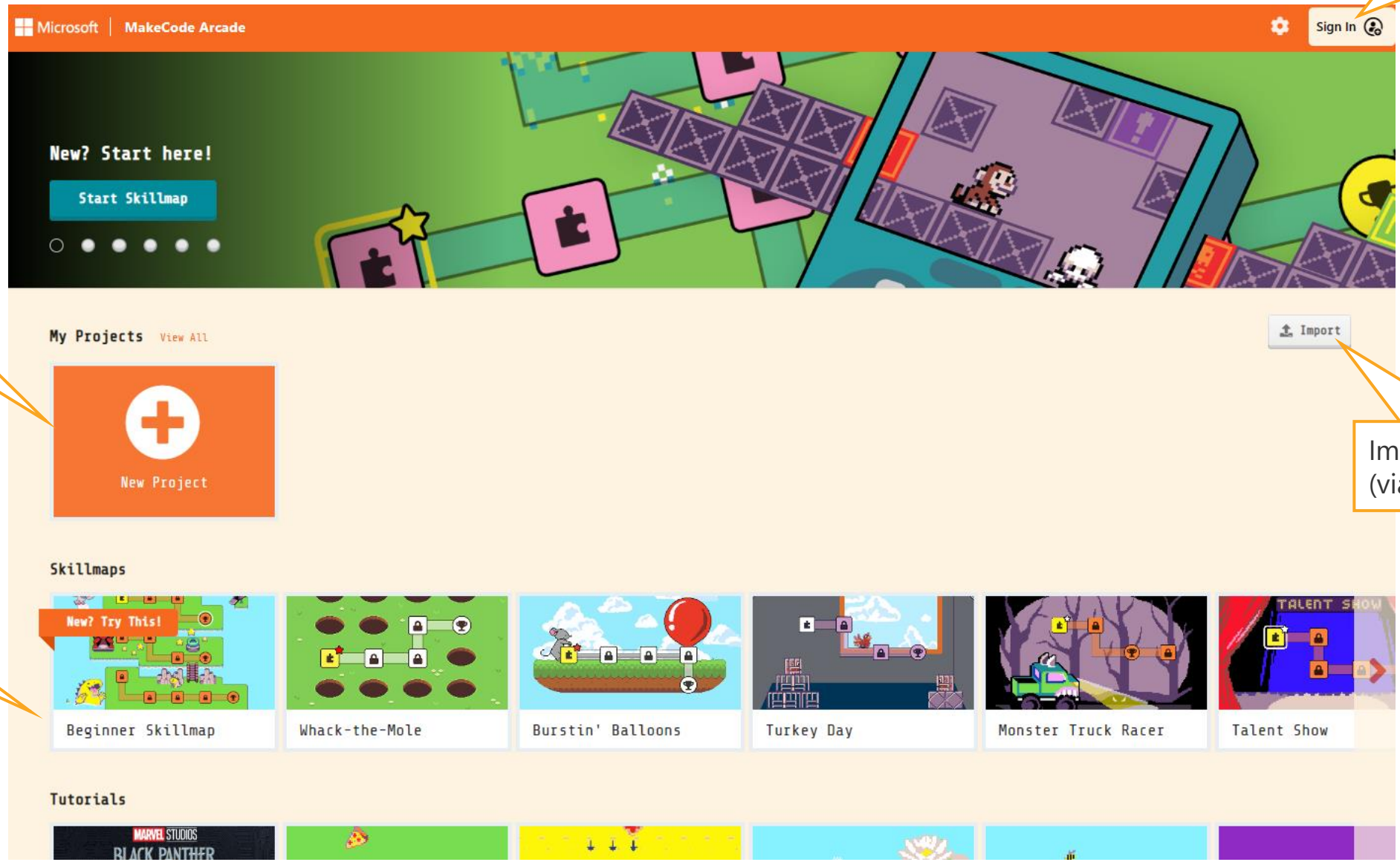
Donkey Kong

Let’s create a Maze Game!

Navigate your player through the maze before time runs out!

Open Browser: **arcade.makecode.com**

Optionally sign in to save to projects cloud



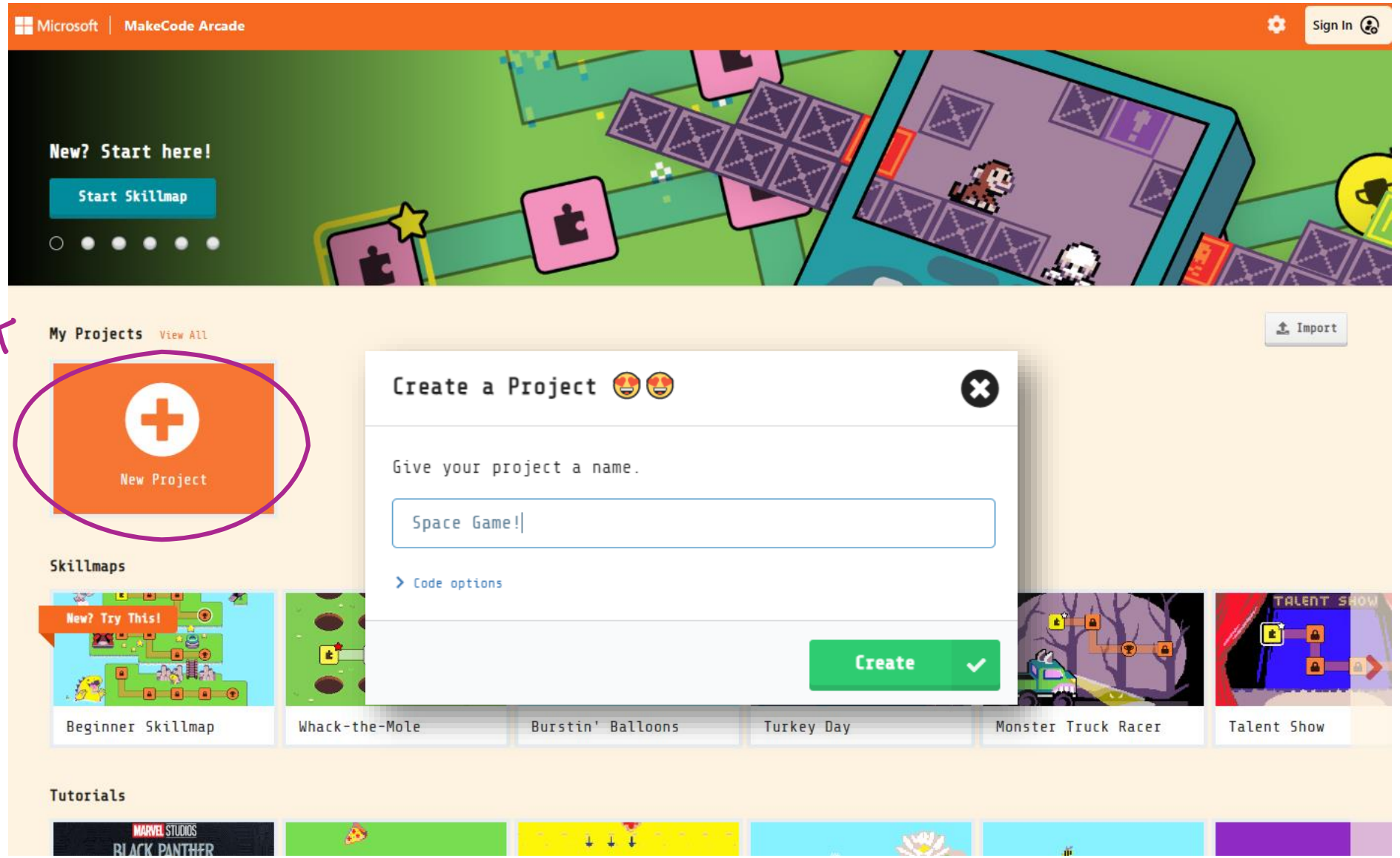
Create a New blank Project

Import Projects (via a File, or URL)

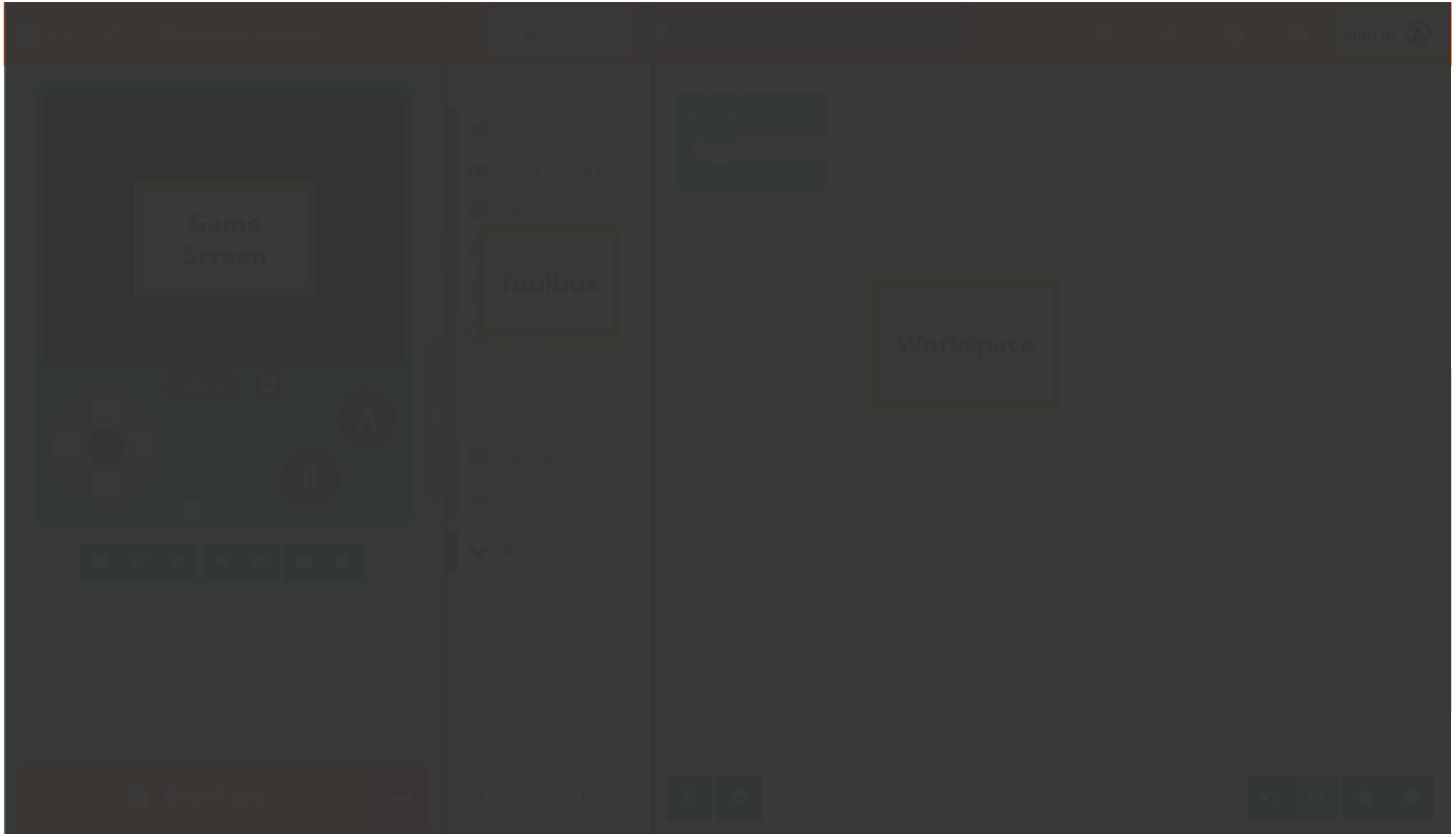
Step-by-step Skillmaps and Tutorials

Create a New Project

Click on New Project



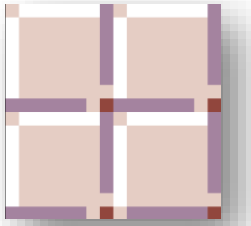
Getting familiar with MakeCode Arcade



Tiles and Tilemaps

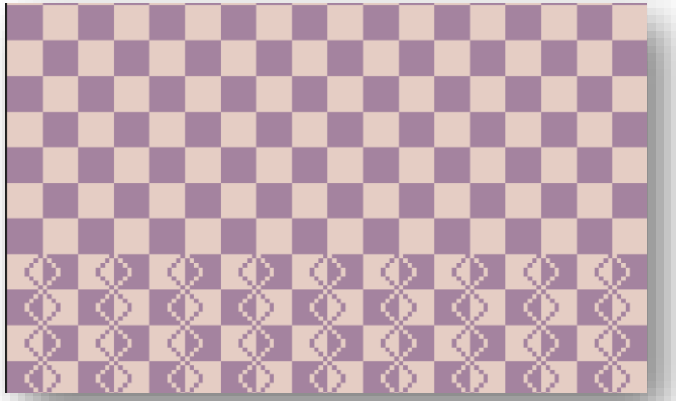
- What is a Tile?

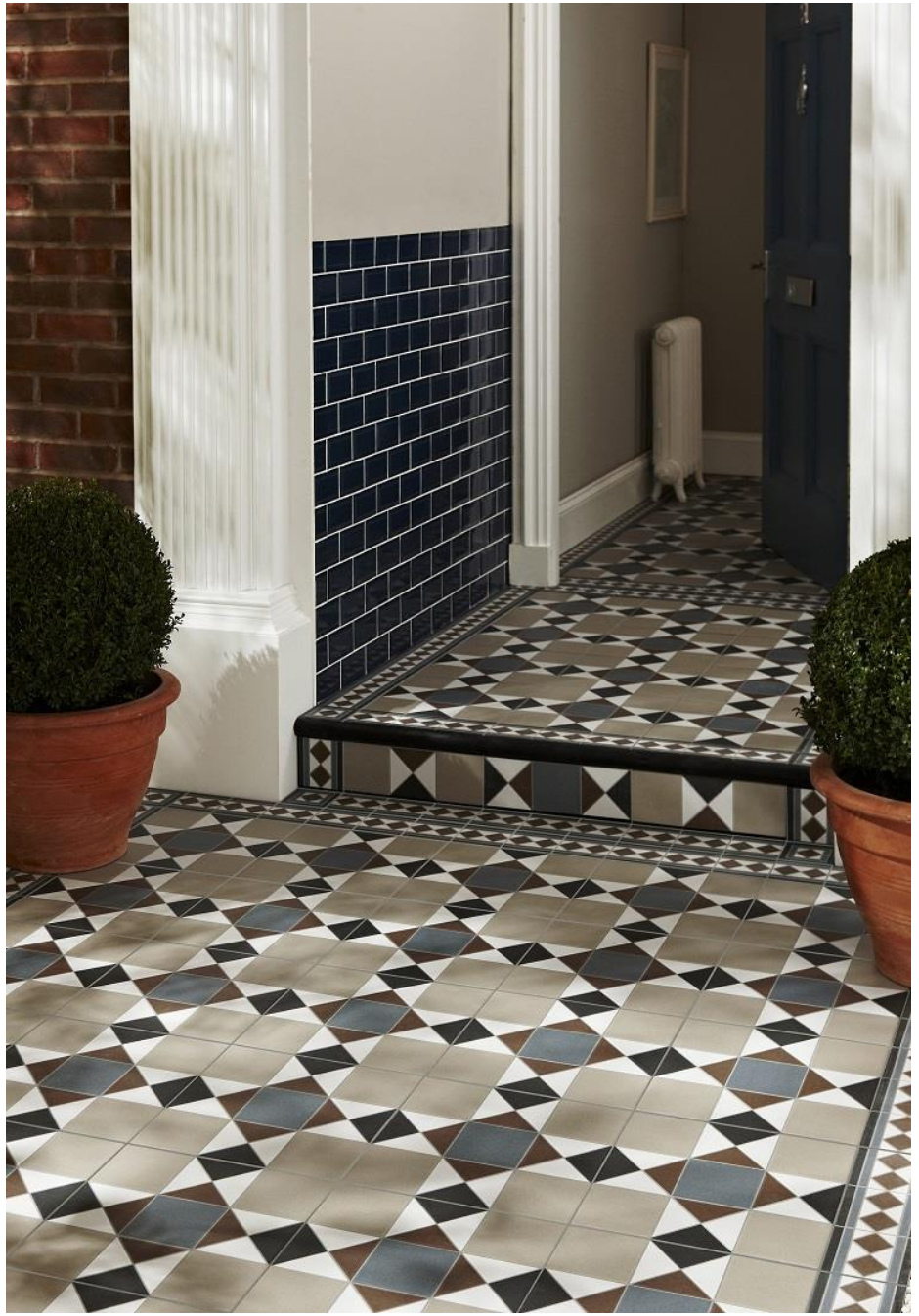
A square pattern



- What is a Tilemap?

A collection of tiles

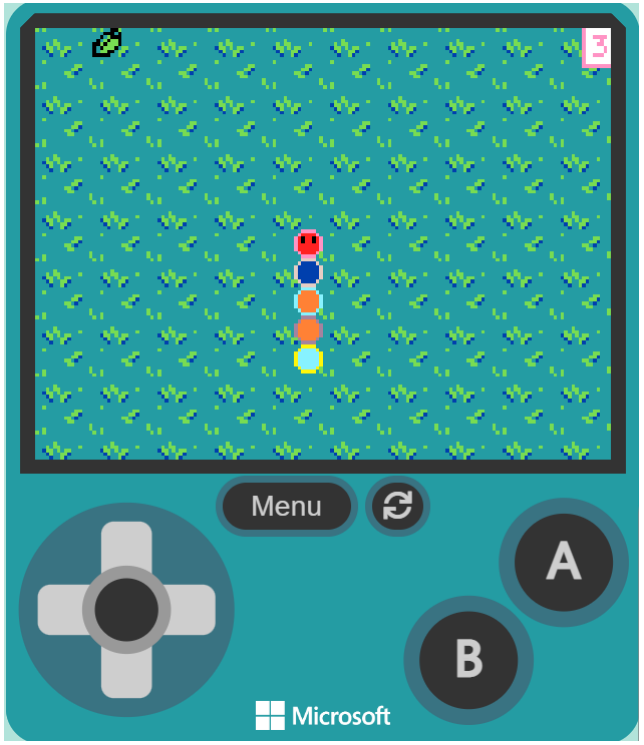


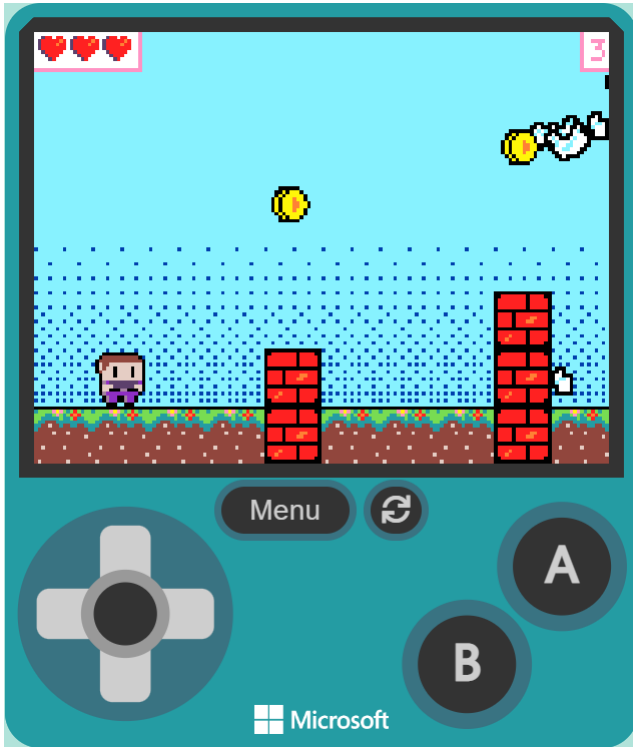


Tilemap Games

Tilemaps are good for top-down perspective (maze, adventure)

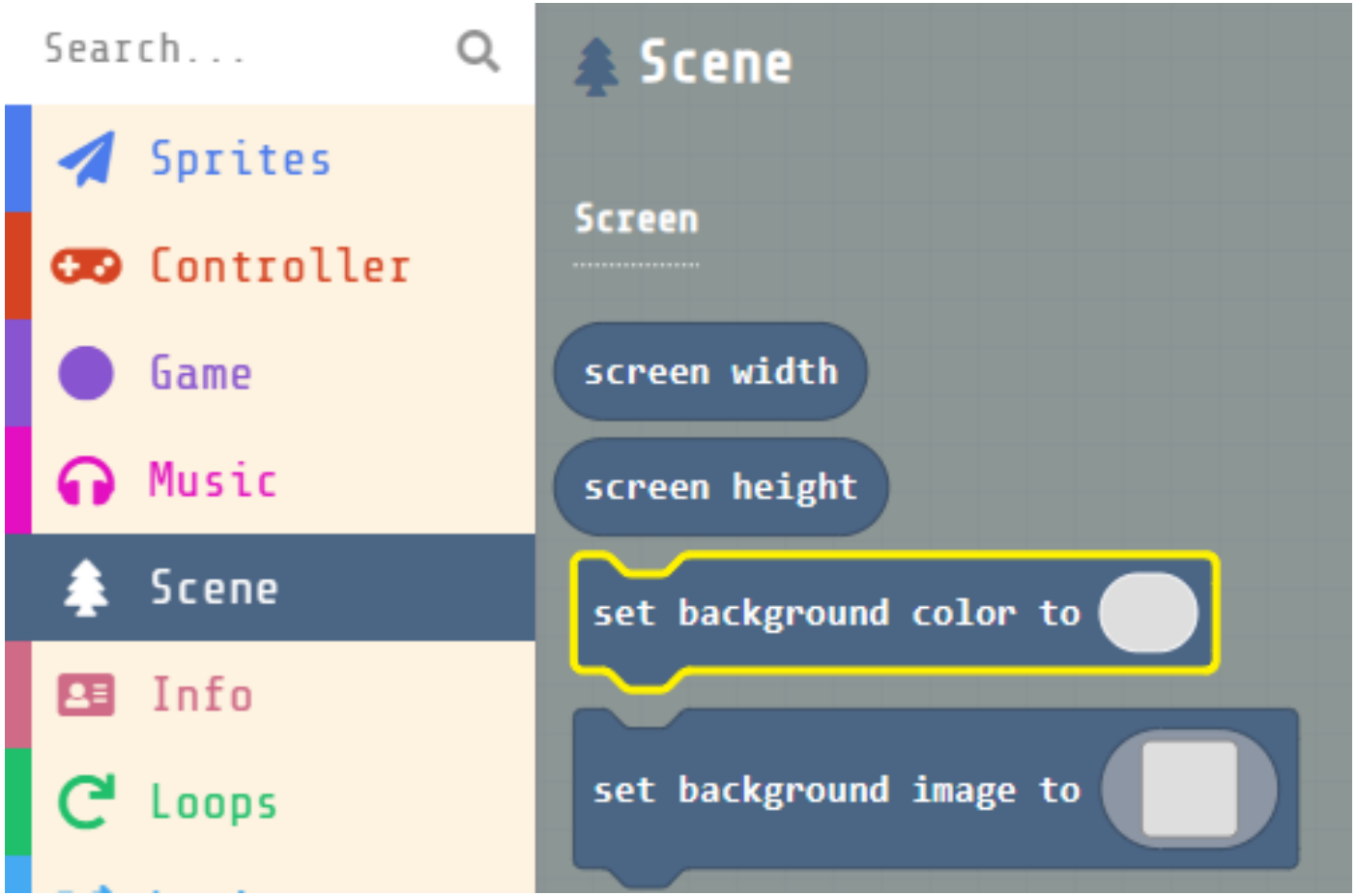
or side-view perspective games (platformer, side-scroller)

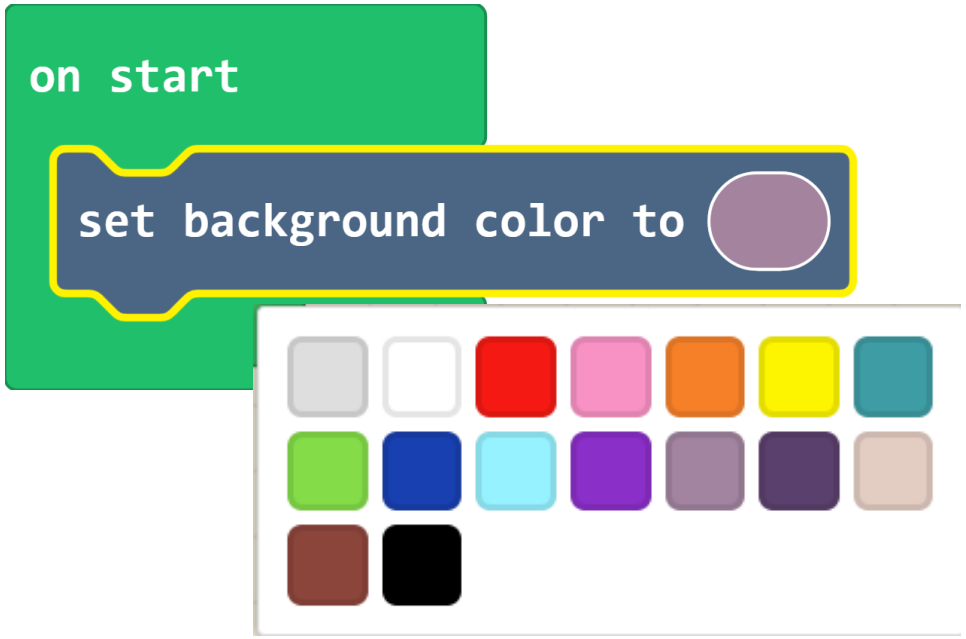




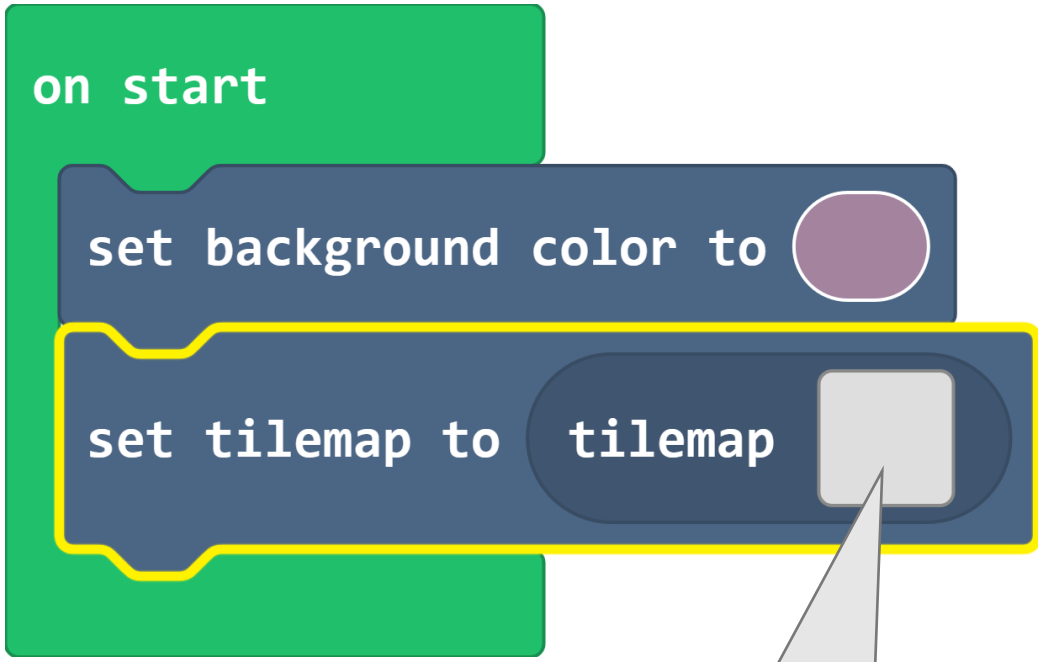
Set the Background Color

This will be the color of the path through your maze





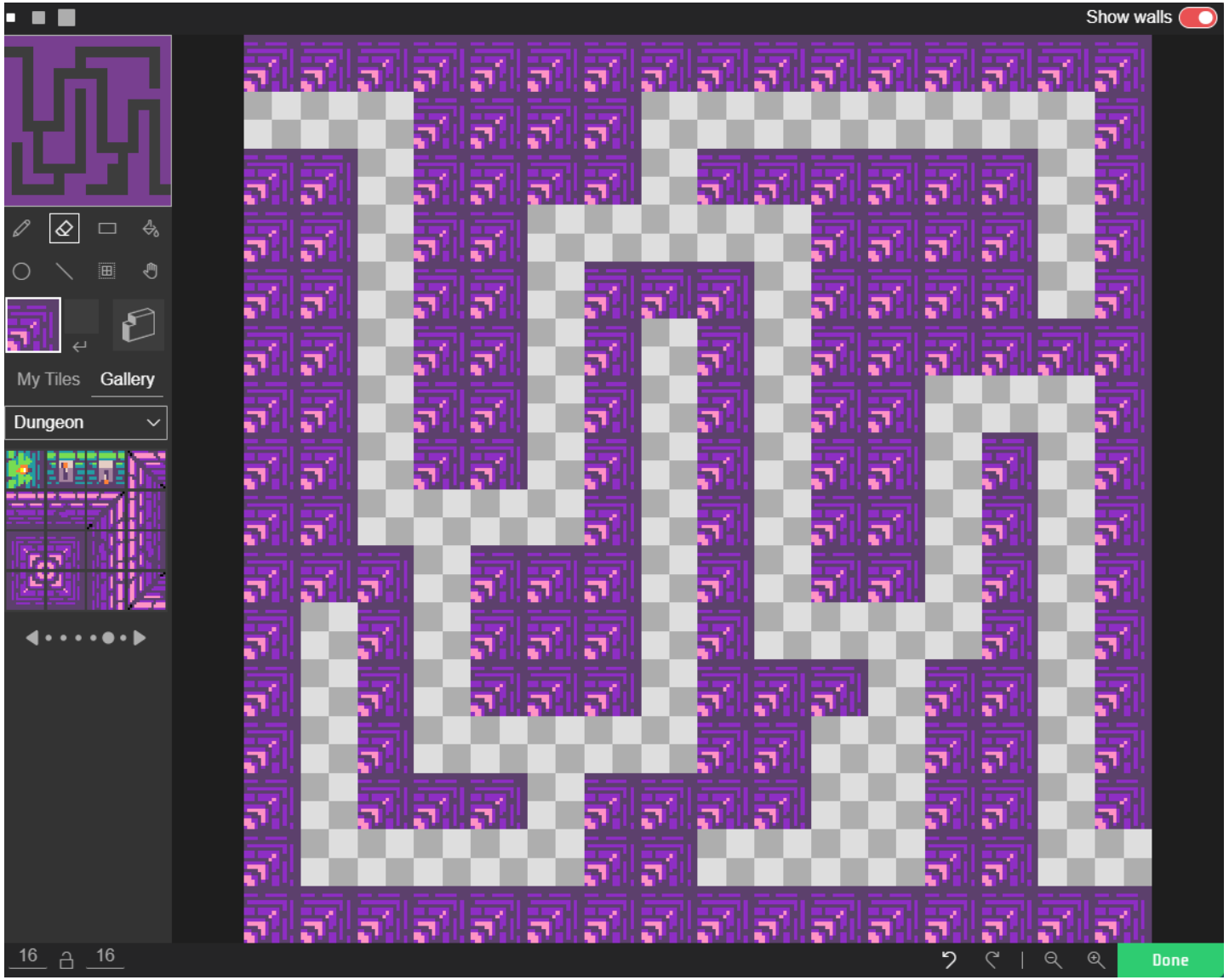
Create the Tile Map



Click on grey box to open Tilemap Editor

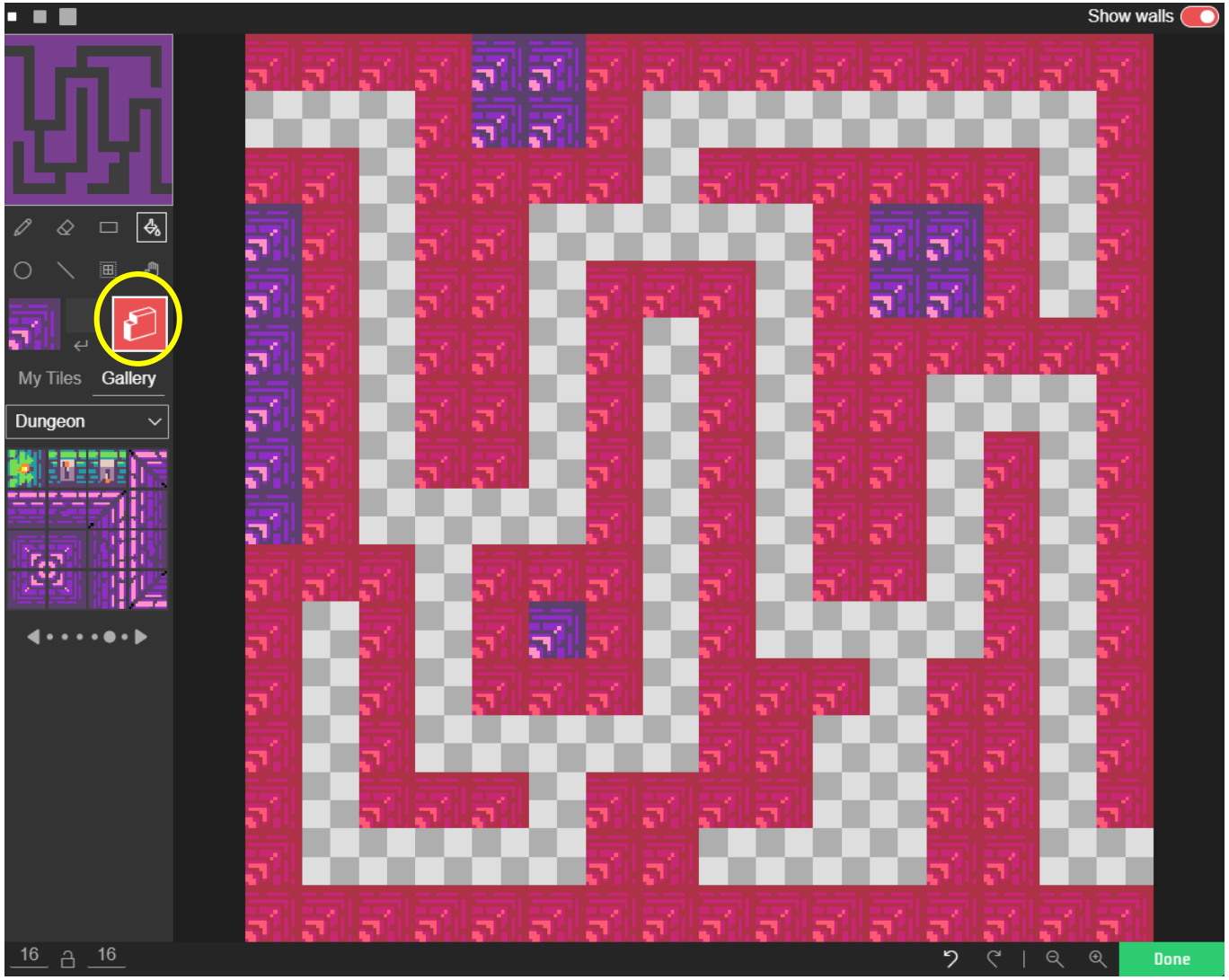
Pick or Draw a Tile for Walls

- Draw your Maze
- Leave an opening for the Start and End of the Maze
- Note – if your walls are all the same tile, you can use the Fill tool to cover the canvas, and then use the Erase tool to draw the passageways



Draw the Walls

- Use the Wall Tool to draw the walls around the passageways
- Note – you can also use the Fill Tool to fill in the Wall on your Tiles

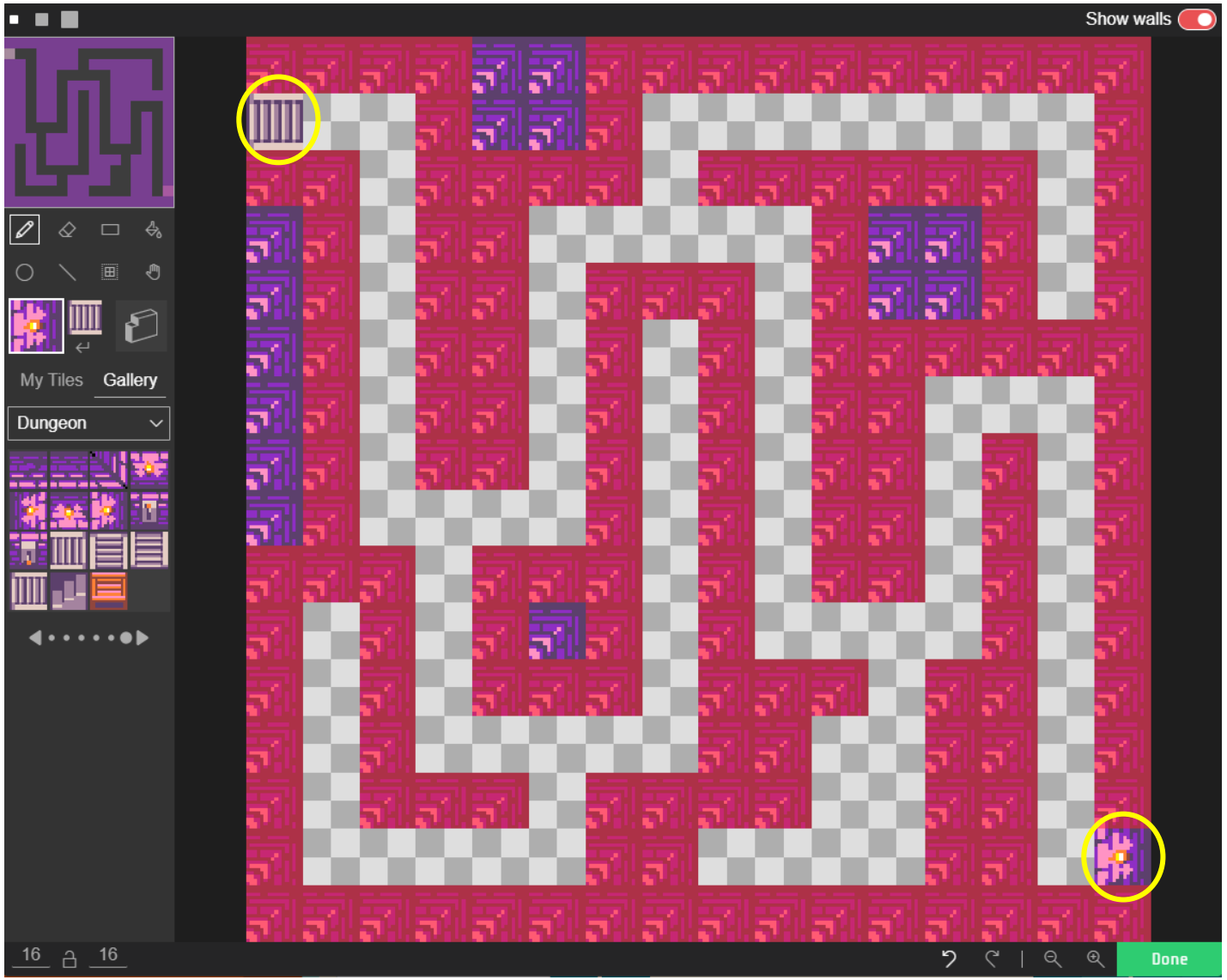


Create the Start and End tiles

Pick (or draw your own) Tiles –

- 1 to represent the Starting point
- 1 to represent the End of the Maze

Click **Done** to close the Tile Map Editor



Create a Player Sprite

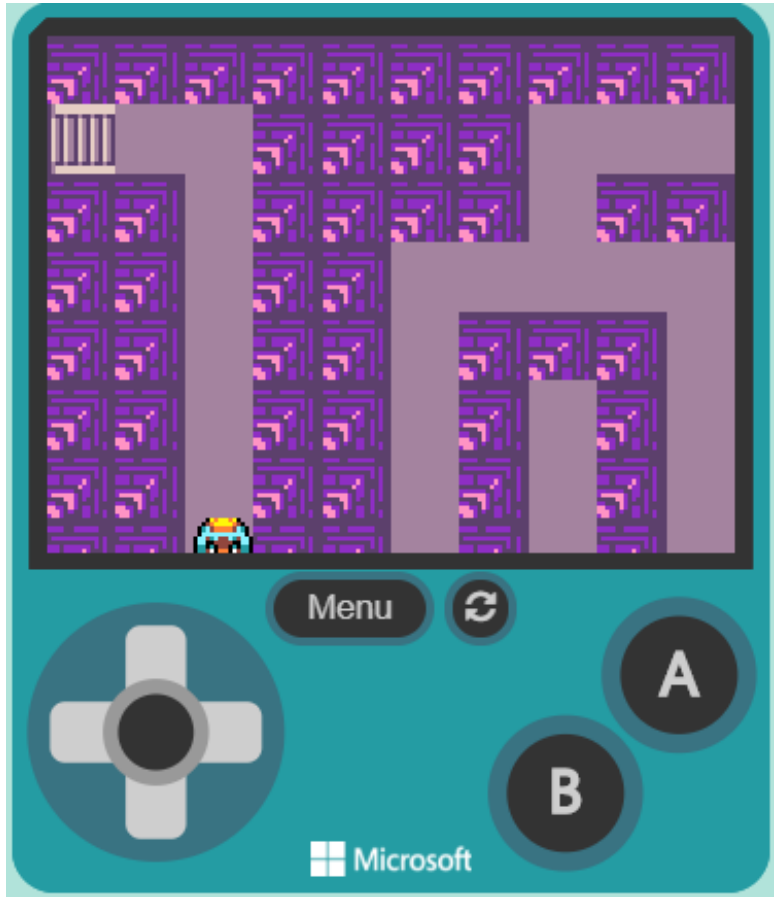
Tip – make sure your Sprite is small enough to fit through the Maze passageways

Position your Sprite at the starting point

Click to select Start Tile

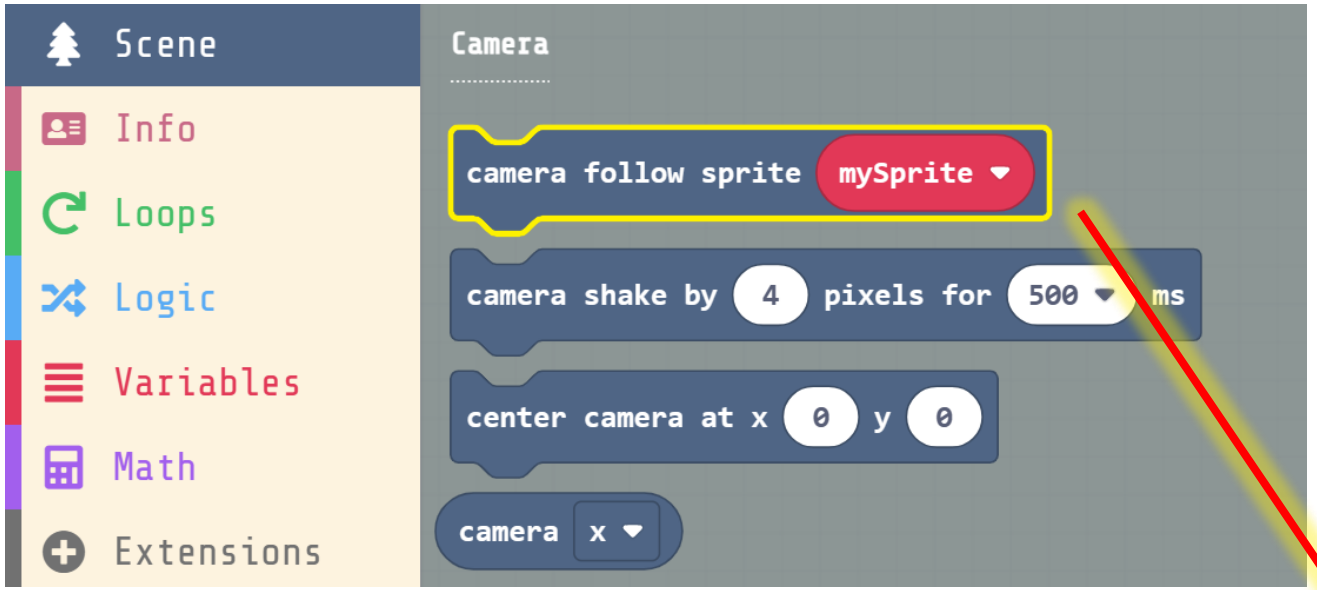
Control movement of your Sprite

Try it out in the Simulator



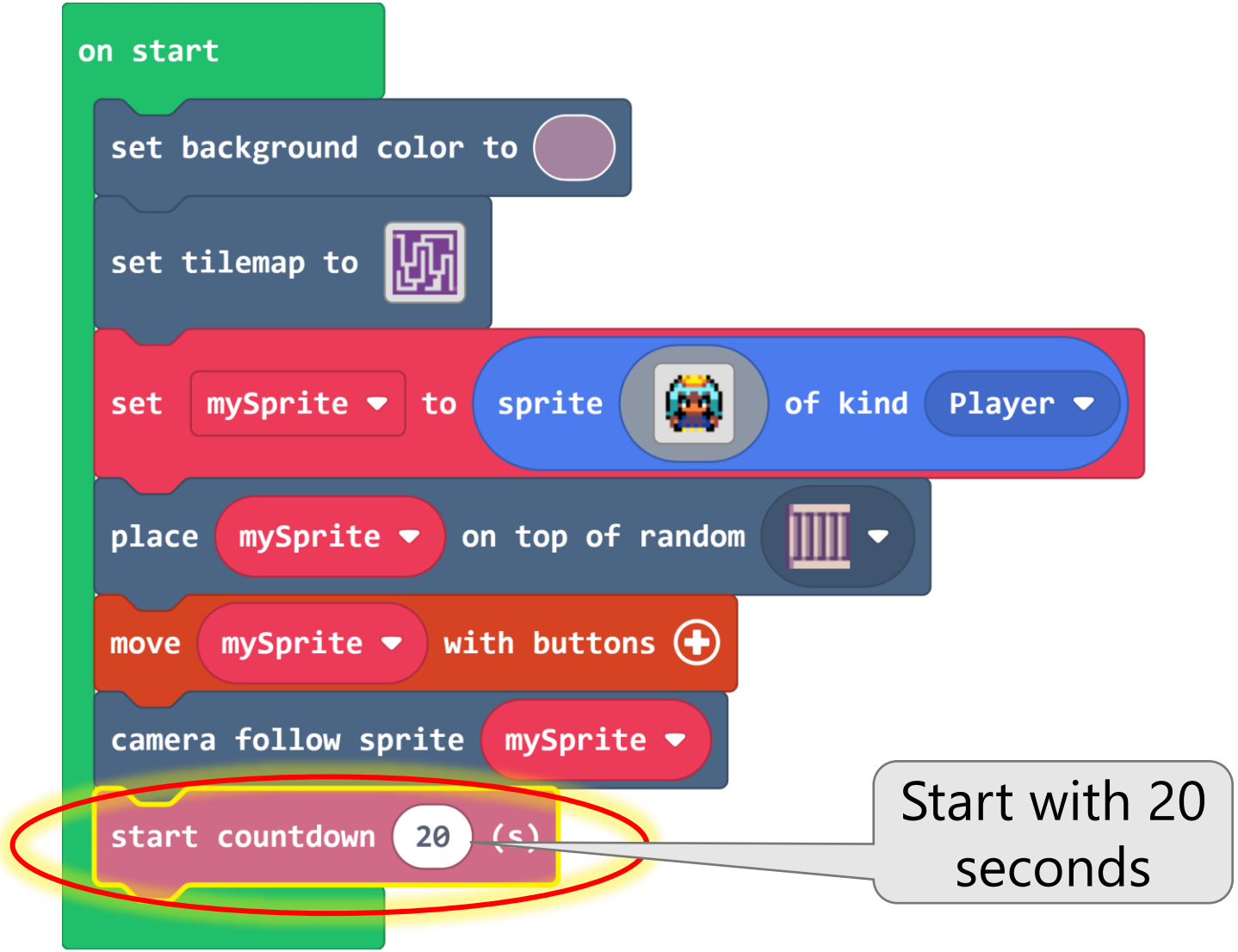
What happens when your Player moves off the screen?

Camera to follow Sprite

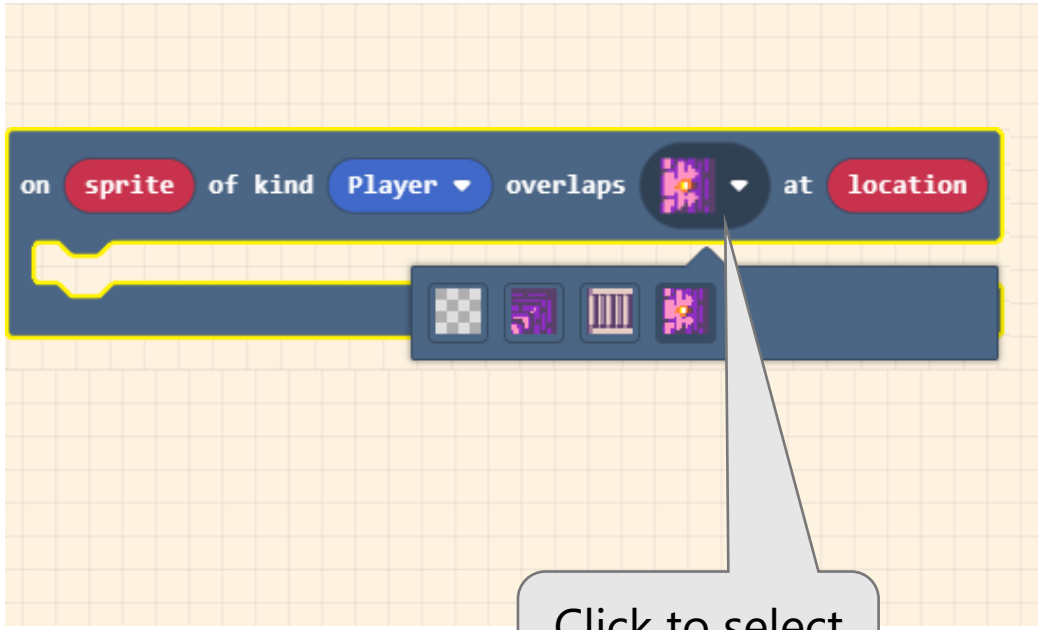


Set Countdown

Info

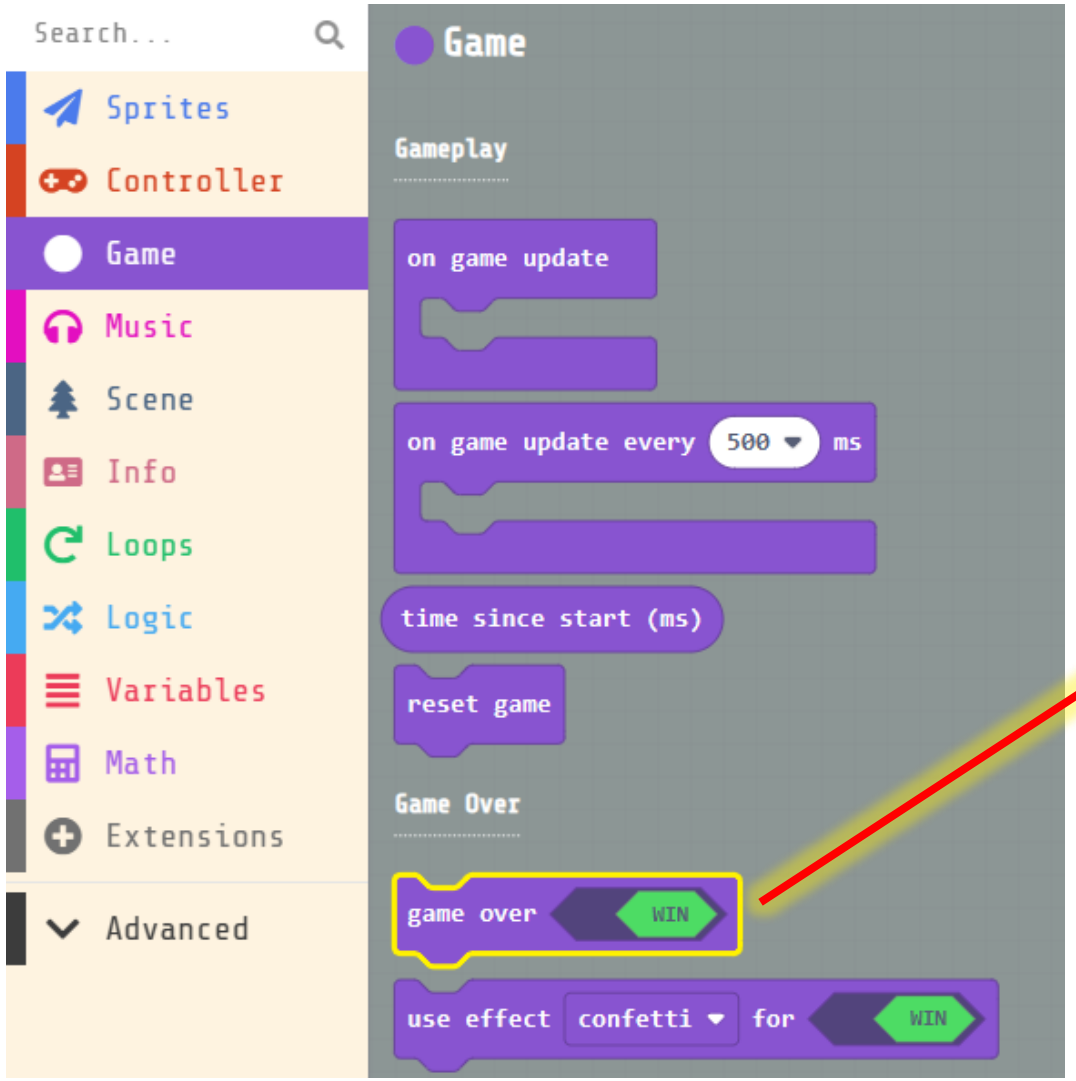


Win when you reach the End point

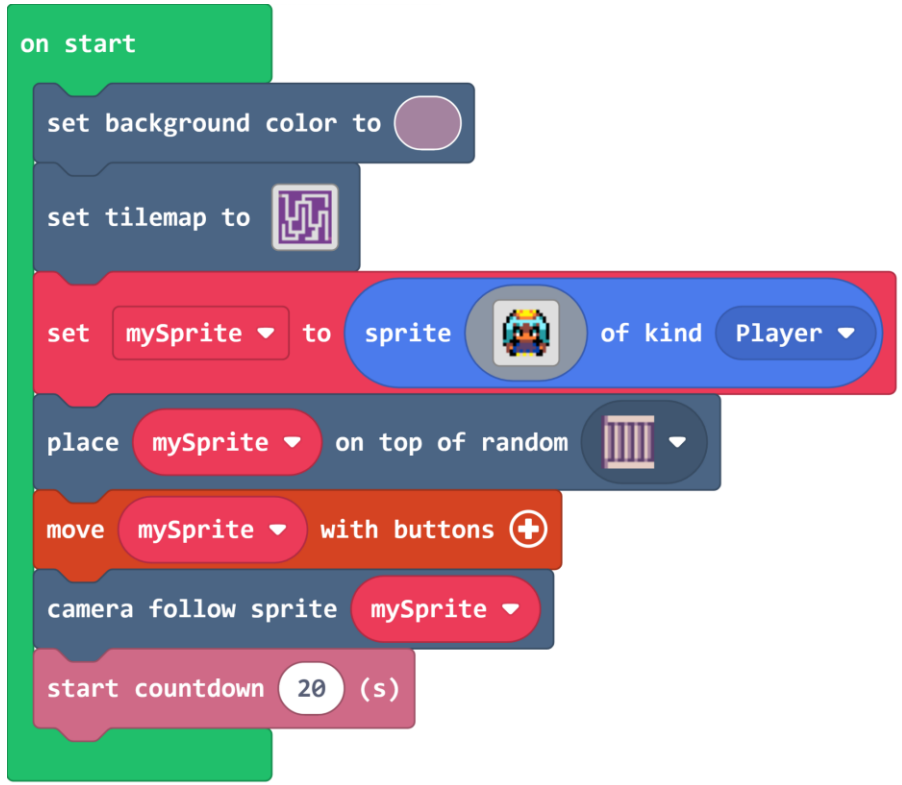


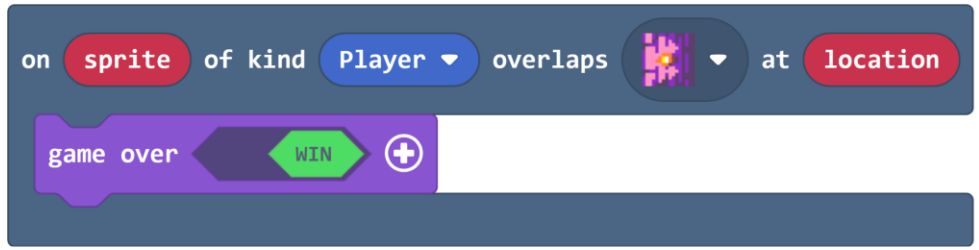
Click to select End Tile

Win when you reach the End point



Complete Code





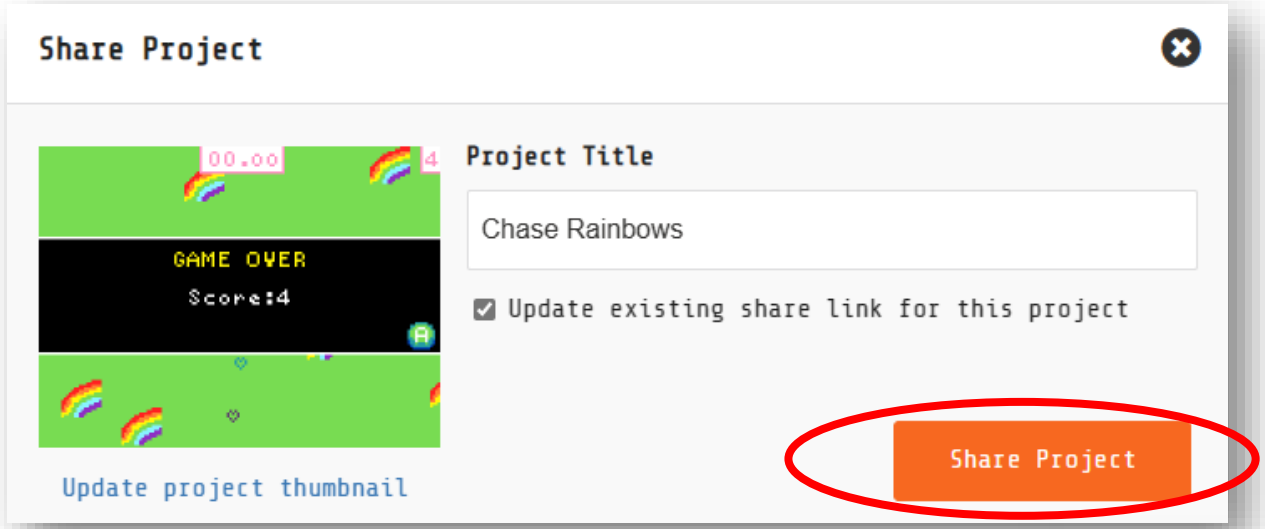
https://makecode.com/_gf1YuFJvkhYp

Maze Mod Ideas

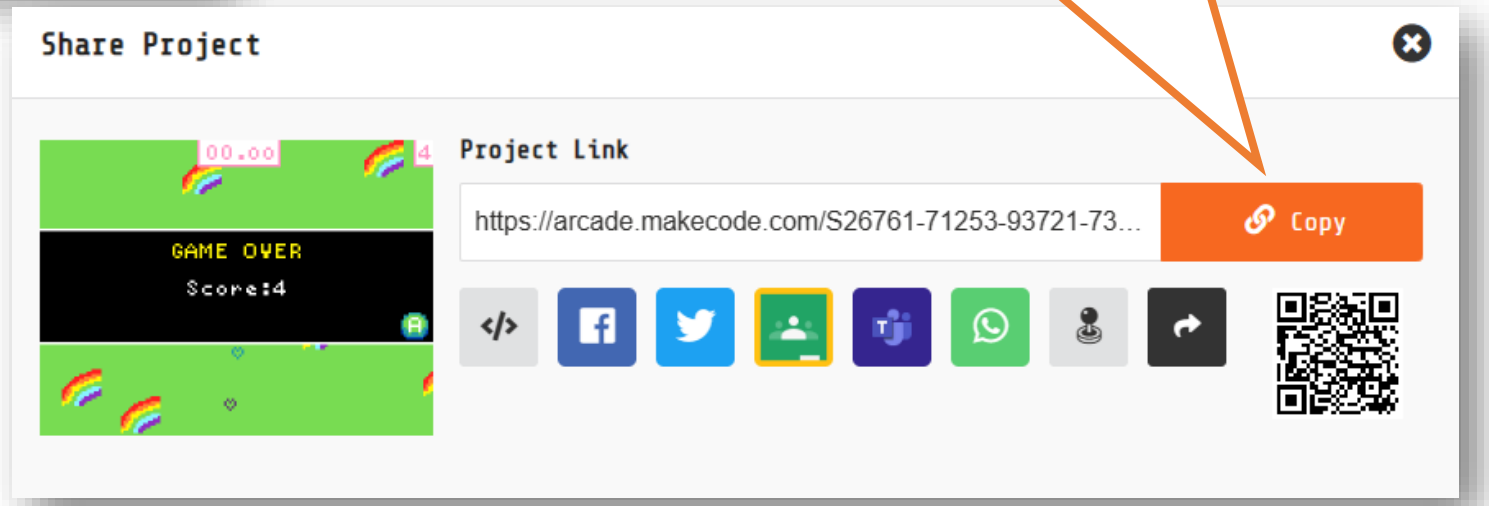
- Add some tiles as objects to collect and gain points
- Add enemies to avoid or battle!
- Add traps
- Add hidden rooms to unlock
- Add Sprite dialog bubbles for more storytelling
- Add music and effects
- Add Animations

Share your game!

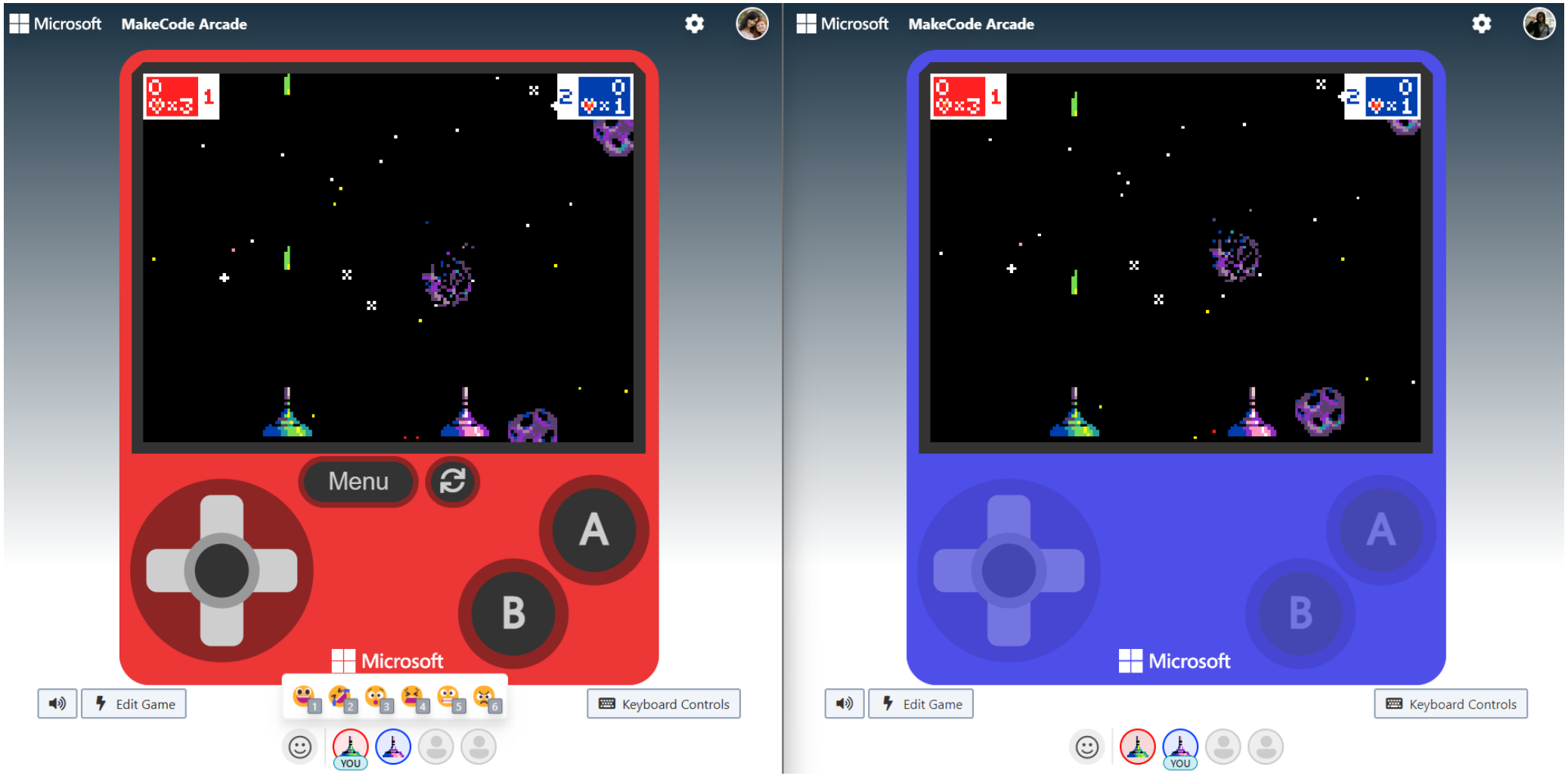
Click the Share button in the top left of the screen



Copy and Paste link into Chat window



Playing games together



arcade.makecode.com/--multiplayer

Arcade Hardware

Boards

These boards run MakeCode Arcade games. Choose a board to find out more about it and where you can get one!

BrainPad Arcade

Learn how BrainPad Arcade lets you run games on a small handheld console.

Meowbit

A retro game console for STEM education from Kittenbot team.

Adafruit PyBadge

It's a badge, it's an arcade, it's a PyBadge.

Adafruit PyGamer

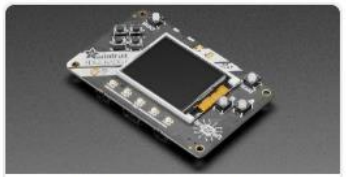
The upgraded PyBadge.

Kitronik ARCADE

ARCADE is a programmable gamepad for use with MakeCode Arcade.

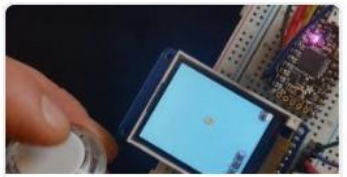
Ovobot Xtron

A programmable microcomputer that can be used for making MakeCode Arcade games.



Adafruit EdgeBadge

It's the PyBadge with a zest of Machine learning.



Adafruit M4

Learn how to run your games on micro-controllers from Adafruit.

Adafruit Joy Bonnet

Learn how to run your games on Raspberry Pi Zero and Adafruit Joy Bonnet.

arcade.makecode.com
/hardware

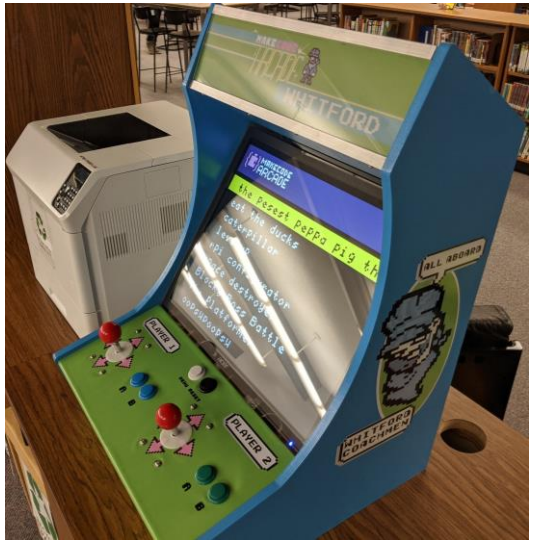
Arcade Cabinets & Controllers

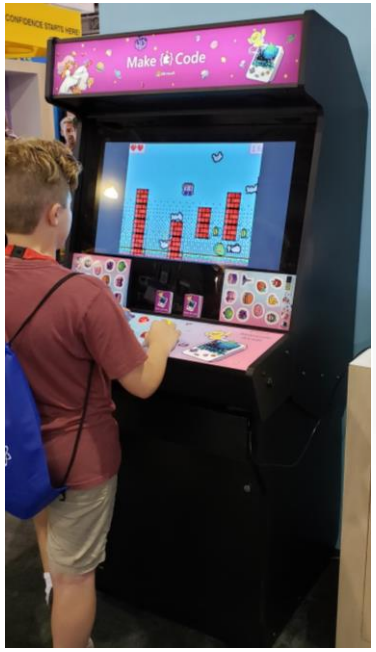
Cardboard Panel

Turn a cardboard box into a tabletop arcade.

Arcade table

Turn an IKEA FLISAT table into an arcade.





Arcade Kiosk Mode

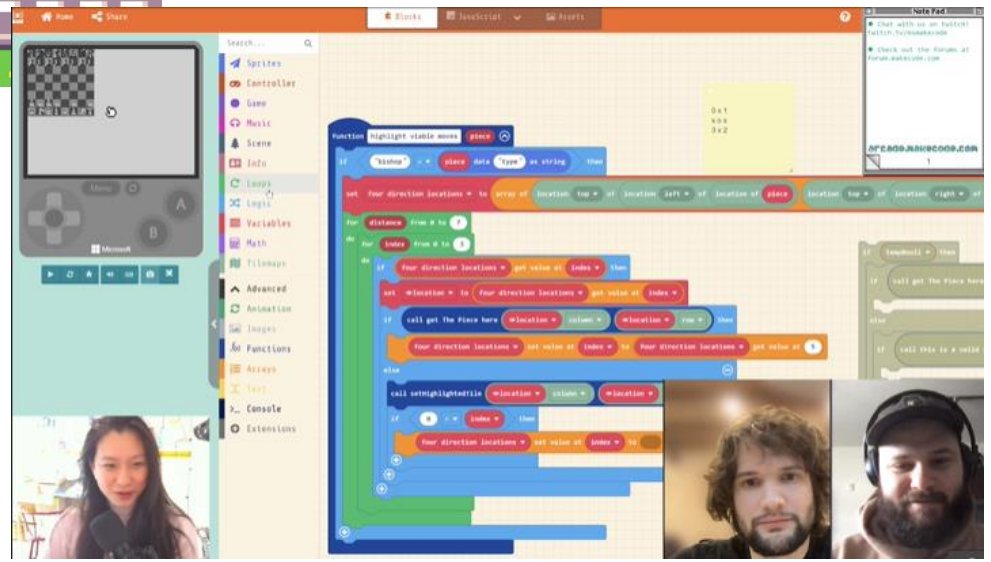
arcade.makecode.com/hardware/kiosk

MakeCode Arcade Live Stream & Forum

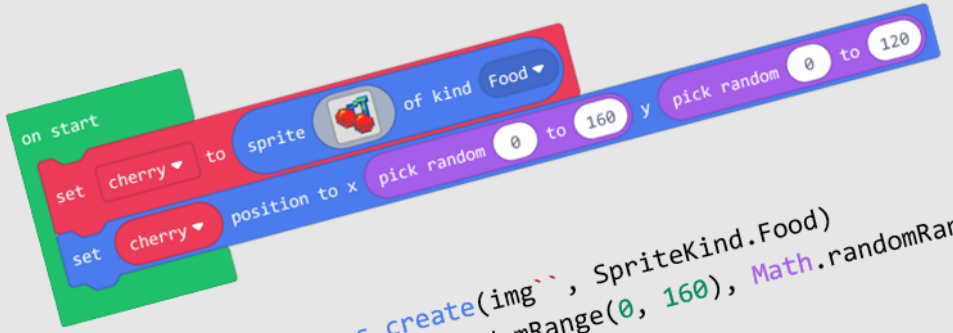
1pm Pacific / 3pm Eastern MWF

twitch.tv/msmakecode

forum.makecode.com



MakeCode Engineers




```
let cherry = sprites.create(img`` , SpriteKind.Food)
cherry.setPosition(Math.randomRange(0, 160), Math.randomRange
```

Thank You!