

GAME LAB



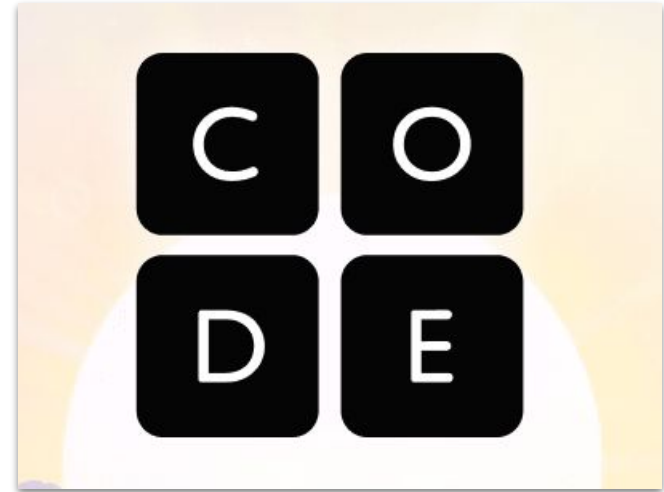
Objectives

- Introduction to the Game Lab
- Get familiarized with text-based coding
- Understand the concepts of creating a game
- Introduction to “Sprites and its features”
- Implement the methods and properties of Sprites with an activity



Code.org

- Code.org is a platform for beginners who wants to learn coding
- It is an open source website
- It consists of different labs like Sprite Lab, App Lab, Game Lab, Web Lab etc.



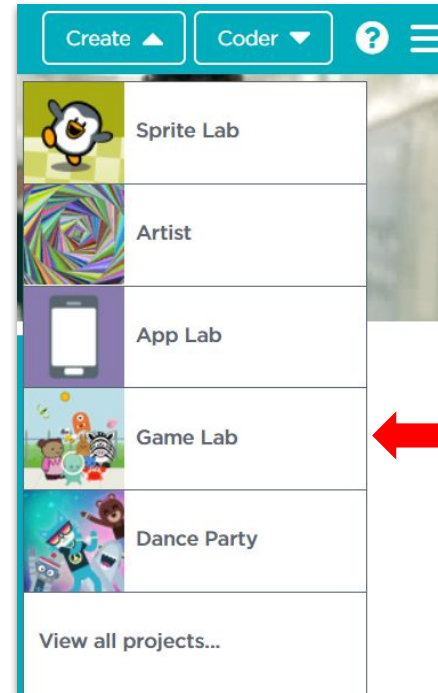
Game Lab

- Game Lab is a programming environment found in code.org
- Here, you can make simple animations and games with objects and characters that interact with each other
- JavaScript is the base language used in programming
- The codes can be shared with family and friends or published on the internet

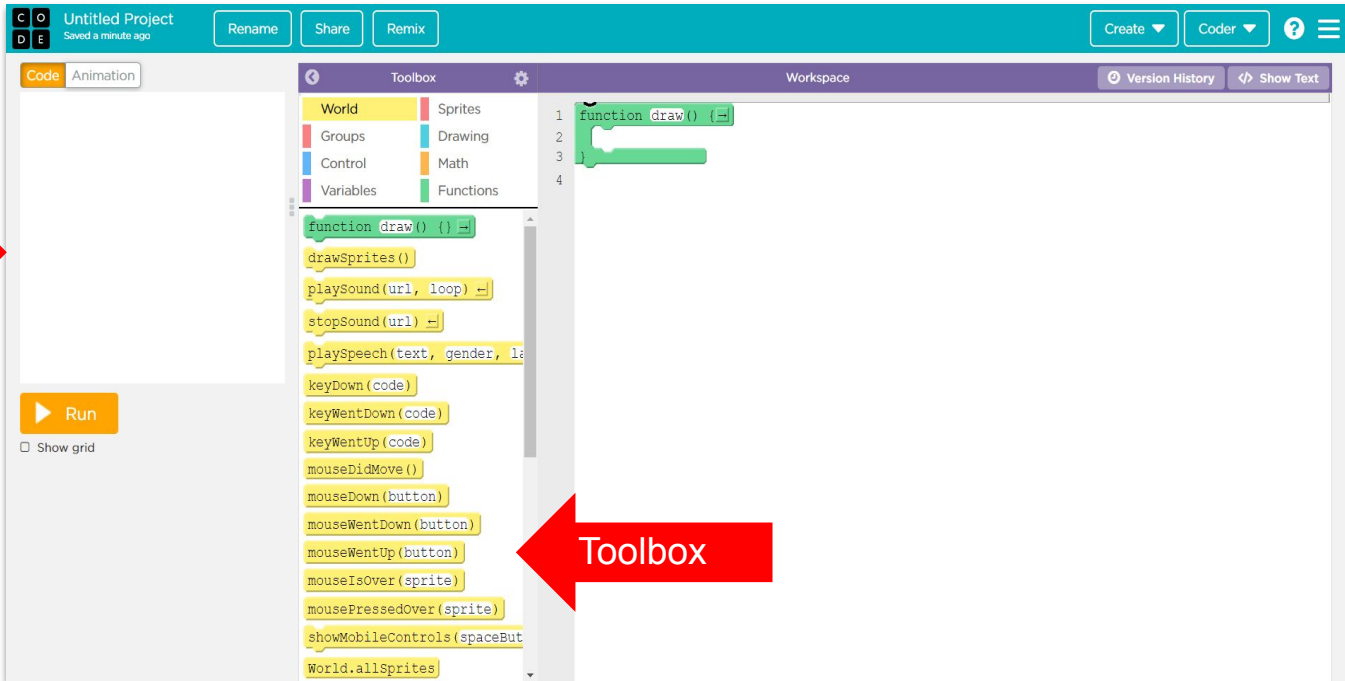


Coding in Game Lab

- First open code.org
- Then login using the Gmail account
- Click on the create option
- Choose the option of Game Lab and then get started



Coding in Game Lab



Coding in Game Lab

- The codes can be written in two formats

Block Based

```
1 function draw() {  
2  
3 }  
.
```

Text Based

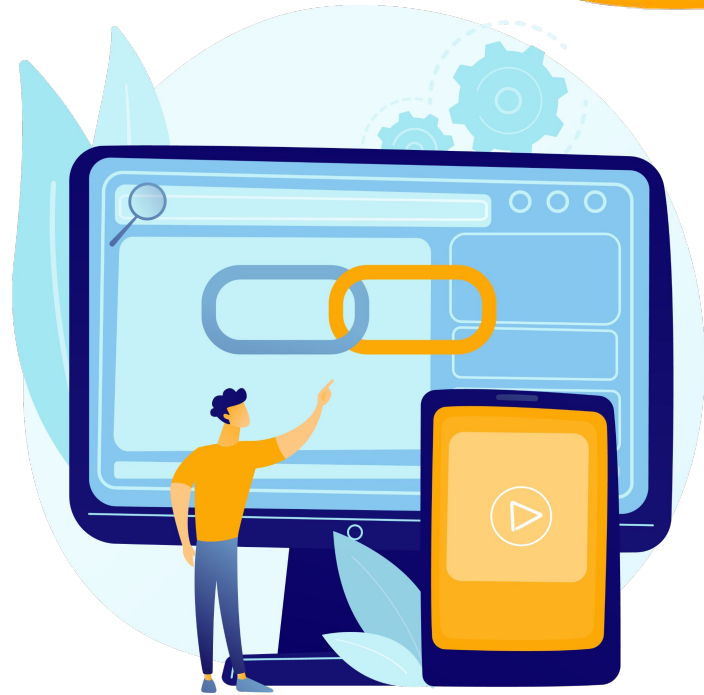
```
1 function draw() {  
2  
3 }  
4
```

- We can easily switch between the two styles

Important function

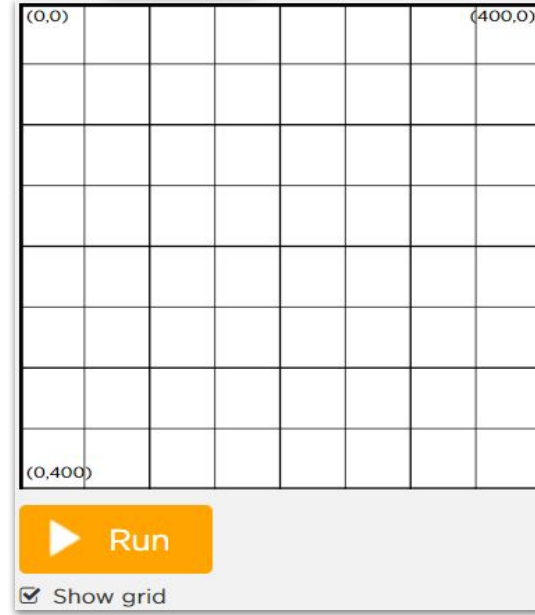
function draw(){} :

- Execution function
- Executes the code inside the block until the program is stopped
- It is a predefined function



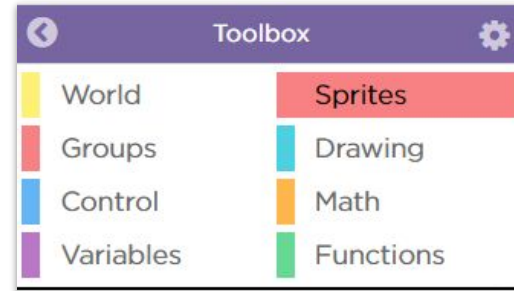
Canvas and Coordinates

- It is the blank space where the output will be showcased
- The colour of the canvas is given by the command `background("")`
- Coordinates are the points on the canvas
- There are two coordinates - x and y coordinates



Sprites

- Sprites are objects of JavaScript which are only present in code.org
- The sprites possesses different properties such as velocity, position, scale etc.
- The sprites can be found in the toolbox



Properties

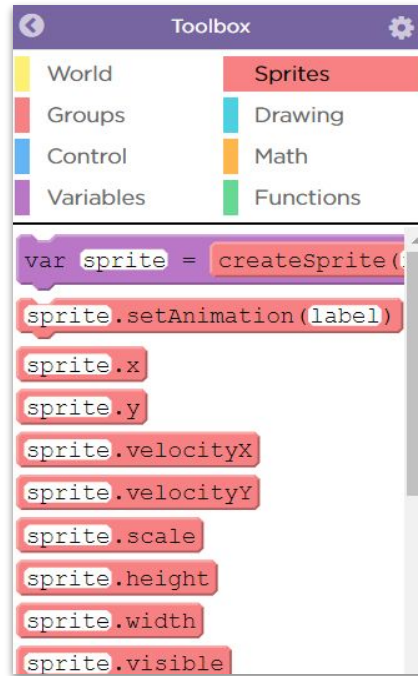
- Properties are the values associated with the objects in Javascript
- Sprites are a collection of different properties like the position, velocity etc.
- These can be changed, added, and deleted, but some are read only
- *Syntax*

`Sprite.property`



Properties

The different properties of sprite are listed in the toolbox

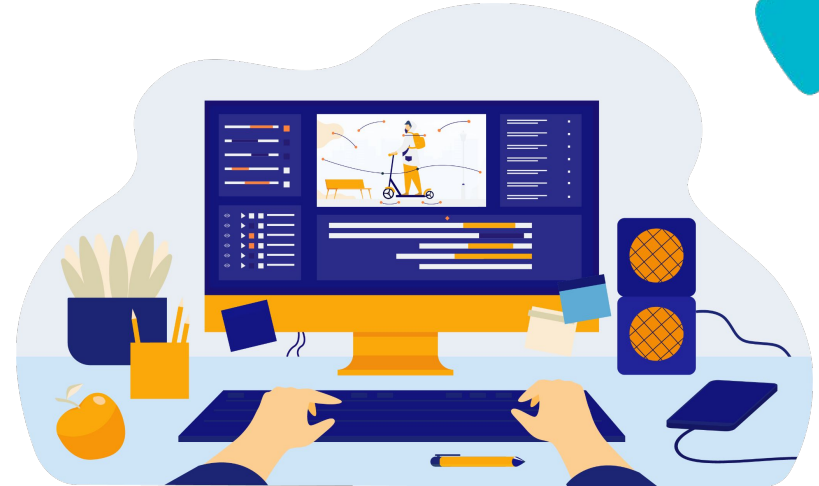


Properties of Sprites

Edges

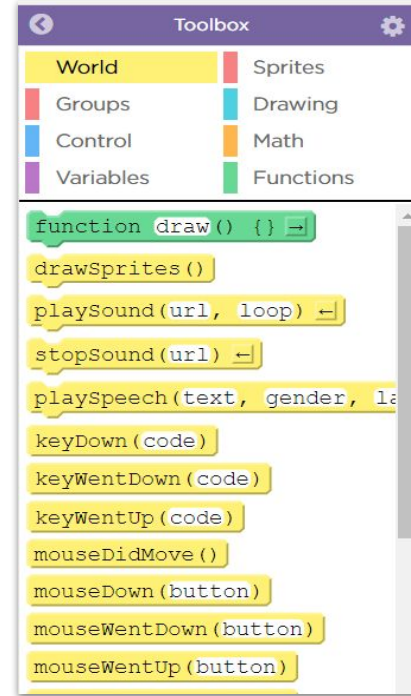
- To give a boundary on the canvas, edges are used
- The edges are not visible on the canvas
- The syntax to create edges is given as-

`createEdgeSprites()`



Other Actions

- To make the game more interactive there are different commands available
- Some of these commands are shown here
- It is present in the World section of the Toolbox



String Concatenation

- It is the process of joining two strings or a string with a number
- Syntax

`text('string' + 'string', x, y)`

`text('string' + number, x, y)`

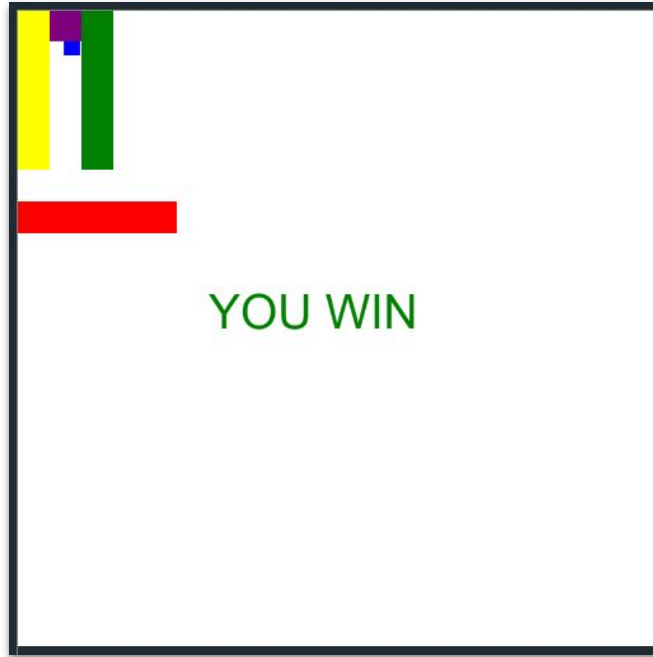


Game State

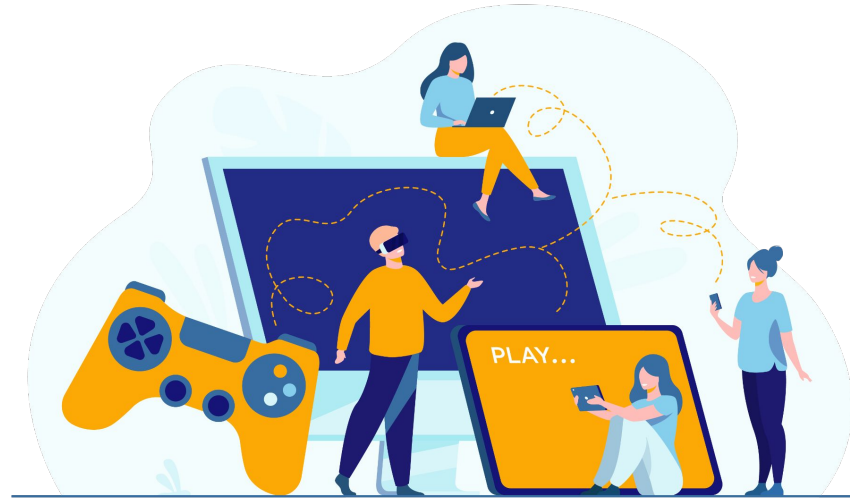
- Game State helps us create many instances in a game like GameStart, GameOver etc
- The objects in the game behave differently at different GameState
- We can store the information about the state of a game using variables
- After storing, conditional programming is used to instruct the computer to behave differently for different states



Activity 1!



Let's run the game!!!



Run on a Mobile

Share your project



Copy the link:

<https://studio.code.org/projects/gamelab/NMVVRp--n5OdAgalWRMUiN>



Send to phone

Publish



Enter a US phone number:

Send

A text message will be sent via [Twilio](#). Charges may apply to the recipient.

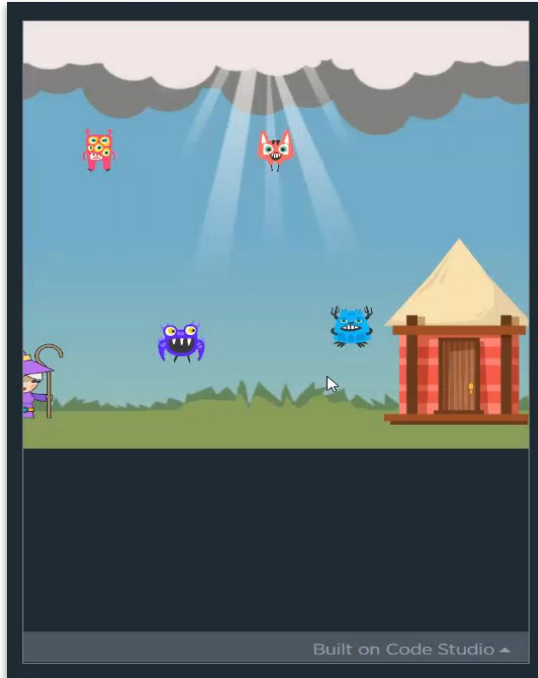
Scan this code with your phone camera:



The game will run on mobile when the QR code is scanned on the mobile camera

[Show advanced options](#)

Capstone Activity!



Question and Answer



