Galga Makecode Notes

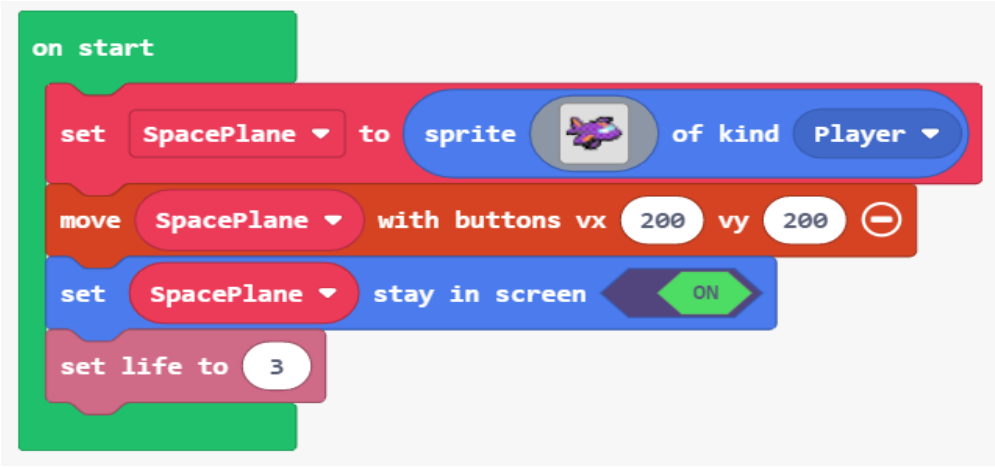
https://arcade.makecode.com/tutorials/galga (Galga tutorials printed form, here you can click try this tutorial at the top and see an “in game” tutorial. The “in game” tutorial has different step numbers)

1. Login to Makecode
    a. https://www.microsoft.com/en-us/makecode?lc=1033
2. Under Arcade, press start coding
3. Click the Plus button to start a new project or click a previously started program
    a. Tutorials and ideas on this page too

- A sprite's vx represents the sprite's velocity on the horizontal axis and is how quickly the sprite's x value is changing in value moving left to right. A sprite's vy, represents the sprite's velocity in the vertical axis, and is how quickly the sprite's y changes in value moving up and down.
    - Speed is the time rate at which an object is moving along a path, while **velocity is the rate and direction of an object's movement**. Put another way, speed is a scalar value, while velocity is a vector
- If game continues to go on its own, there is a stop square in the bottom right hand corner
- If the game loads and the player doesn’t move when the buttons are pressed, move the mouse over to the Game Boy.

Finished Code (with descriptions for each line of code)

Steps 1-4 (on the printed version)



- The “on start” block → sets up what should happen right when the game starts

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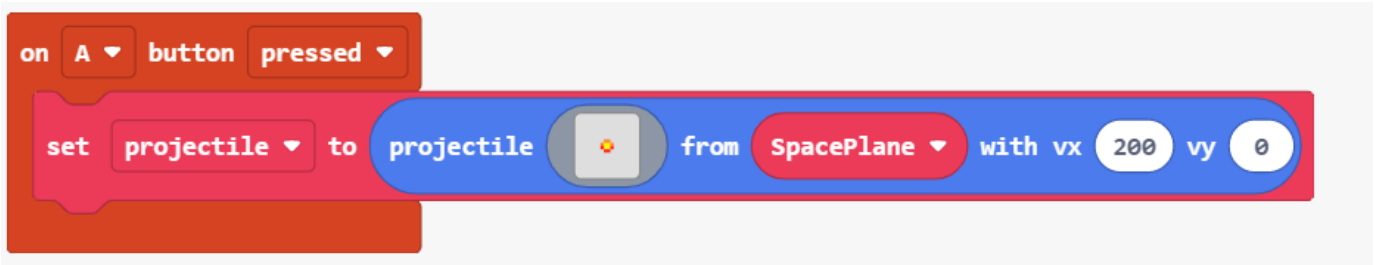
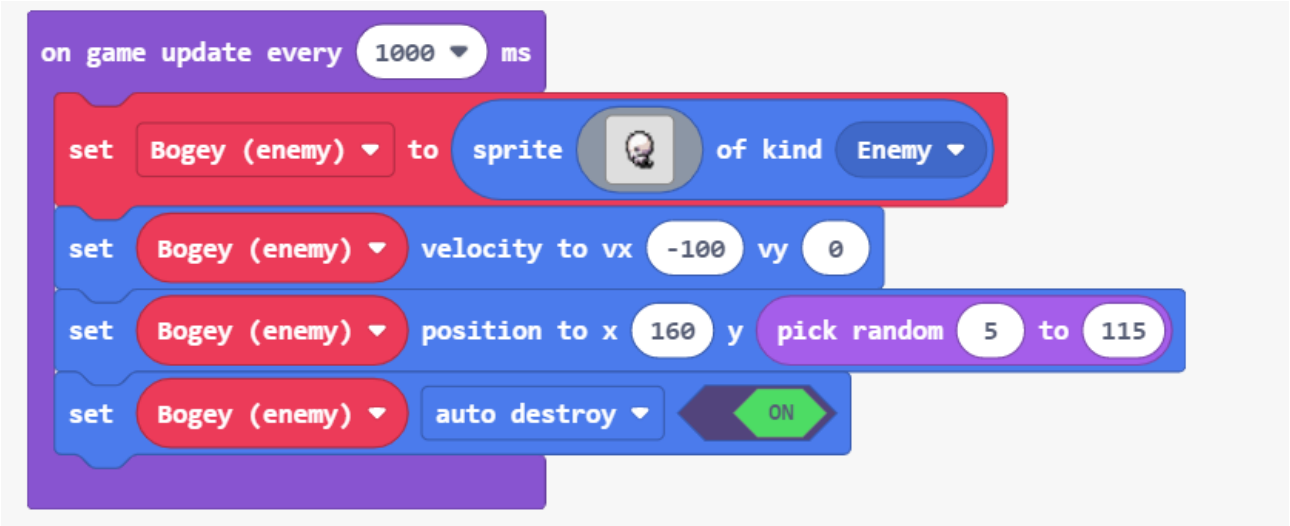
- SpacePlane is a sprite and this is what it looks like and it is a “player” kind of sprite
- SpacePlane will move with buttons (either WASD, arrow keys or clicking/using the joystick on the “game boy”. The numbers are how fast and in what direction the space plane is flying in (vx is the speed and direction when flying across the X axis and vy is the speed and direction when flying across the Y axis).
- This keeps the SpacePlane from leaving the screen
- Lives are set to 3 at the beginning of the game

Step 5 (on printed version)



- When the A button (on the game boy, or when Z is pressed on the keyboard) is when this code will run
- Set a projectile that looks like the picture in the gray box, release the projectile from the SpaceShip at a velocity of 200 (meaning it will fly from the SpacePlane and go towards the left but NOT up/down)

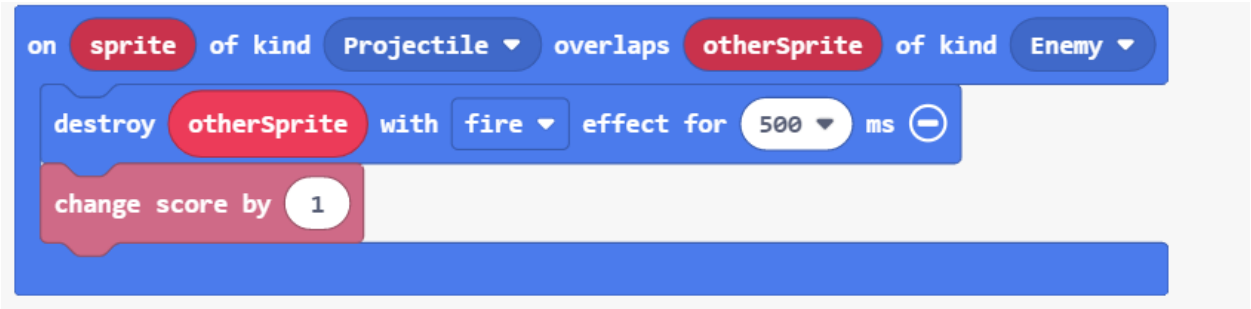
Steps 6-9 (on printed version)



- This line of code runs every time the game updates and it tells how often the game updates in milliseconds.

- It sets an enemy sprite as the picture in the gray box and defines it as an enemy.
- This makes the enemies move from right to left and NOT up/down.
- The enemies start on the far right side of the screen (the tutorial gave me the 160 number, it is the number of pixels available) and then randomly appear at random heights on the map
- The enemies will automatically be destroyed if they pass the spaceship (otherwise there will be a pile of ships on the left side of the screen)

Steps 10-12 (printed version)



- When a projectile sprite touches an enemy sprite, is when this code will run
- When this happens, the enemy will be destroyed and the person playing the game will see a “fire effect” for 500 milliseconds
- The score will go up by one if an enemy if hit with a projectile

Steps 13-14 (printed version)

- This line of code will run when a player (the SpacePlane) touches an enemy
- The enemy will be destroyed
- The SpacePlane will “shake” for 500 milliseconds
- One life will be lost when the player touches the enemy