

# MAKE RANDOM SPARKLES USING SCRATCH



### **Getting started**

1 Start Scratch (1.4) from the Menu



Create necessary variables:

AddOn, command, r, g, b, x, y



Start program (MAIN BLOCK) to tell Scratch youare using the gpioserver, SenseHat and then clear all the dots







One sparkle. This is a second block of code.

```
when clicked

set command to join ledpixelx 1

set command to join command join y 2

set command to join command join colour 100

set command to join command join , 100

set command to join command join , 100

broadcast command
```

This creates a command that uses the values x, y to pick a dot and the values x, y to select a colour. Be careful with all the green join blocks.

Click the green flag

Have a play and try different x, y, r, g, b values. Then click the green flag to see the change

You have now created the code to colour one dot. Fun, but wouldn't it be better if you could colour ALL the dots. That is what you will do next.

#### What if I love Red or Yellow or Green or Blue



Add the code to the MAIN BLOCK to pick random locations (x, y) and colours (r, g, b). Then send the command to draw the pixel to PIXEL BLOCK using broadcast. Make sure to add the [forever] so you get loads of sparkles.

```
when clicked

broadcast gpioserveron v

set AddOn v to SenseHAT

broadcast clearleds v

forever

set v to pick random 0 to 7

set v to pick random 0 to 7

set r to pick random 0 to 255

set g to pick random 0 to 255

set b to pick random 0 to 255

broadcast pixel v and wait
```

The last command is [broadcast [pixel] and wait]

This is the command that tells the PIXEL BLOCK to draw the dot, so we need to change the first line in the PIXEL BLOCK to receive [pixel] code and include all the variables for x, y, r, g, b

```
when I receive pixel v

set command v to join ledpixelx x

set command v to join command join v v

set command v to join command join colour r

set command v to join command join v g

set command v to join command join v g

set command v to join command join v g

set command v to join command join v g

set command v to join command join v g
```



Add commands to make all the new dots red, yellow, green or blue

```
when 🧢 clicked
broadcast gpioserveron▼
set AddOn▼ to SenseHAT
broadcast clearleds▼
wait 🚺 secs
forever
 set × to pick random 0 to 7
 set 💯 to pick random 0 to 7
  set 💌 to pick random (0) to (255)
  set 💇 to pick random 🛈 to 255
 set by to pick random 0 to 255
      key left arrow ▼ pressed?
   set r▼ to 0
   set g▼ to 0
      key right arrow▼ pressed?
   set b▼ to 0
      key up arrow v pressed?
   set r▼ to 0
   set b▼ to 0
       key down arrow ▼ pressed?
   set b▼ to 0
   set g▼ to 0
 broadcast pixel▼ and wait
```



### **Additional**

It's all starting to look a bit busy. Wouldn't it be great if you could clear the SenseHat with a press of the [spacebar]



## Challenges

- Make it so there is always more red in the dots.
- 2 Make it take more time between drawing the dots?