



Download this doc and more examples here: <http://goo.gl/zn4XC>



Links

You may be interested in viewing or downloading these projects/examples.

Type	Description	Link
Video	Intro to Scratch video	http://vimeo.com/29457909
Video	Dance #1	http://vimeo.com/28612347
Video	Dance #2	http://vimeo.com/28612585
Video	Dance #3	http://vimeo.com/28612800
Video	Dance #4	http://vimeo.com/28612970
Project	About me	http://scratch.mit.edu/projects/ScratchEdTeam/2041660
Project	Dance party	http://scratch.mit.edu/projects/ScratchEdTeam/2041671
Project	Square, circle	http://scratch.mit.edu/projects/ScratchEdTeam/2042075
Project	Build-a-band	http://scratch.mit.edu/projects/ScratchEdTeam/2042276
Project	Automatic drawing	http://scratch.mit.edu/projects/ScratchEdTeam/2042282
Project	Conversation	http://scratch.mit.edu/projects/ScratchEdTeam/2042349
Project	Scenes	http://scratch.mit.edu/projects/ScratchEdTeam/2042673
Project	Slideshow	http://scratch.mit.edu/projects/ScratchEdTeam/2042695
Project	Debug it #1	http://scratch.mit.edu/projects/ScratchEdTeam/2042697
Project	Debug it #2	http://scratch.mit.edu/projects/ScratchEdTeam/2042703
Project	Debug it #3	http://scratch.mit.edu/projects/ScratchEdTeam/2042706
Project	Debug it #4	http://scratch.mit.edu/projects/ScratchEdTeam/2042712
Project	Debug it #5	http://scratch.mit.edu/projects/ScratchEdTeam/2042724
Project	Maze	http://scratch.mit.edu/projects/ScratchEdTeam/2042736
Project	Maze Extension: Score	http://scratch.mit.edu/projects/ScratchEdTeam/2042755
Project	Maze Extension: Timer	http://scratch.mit.edu/projects/ScratchEdTeam/2042761
Project	Maze Extension: Enemies	http://scratch.mit.edu/projects/ScratchEdTeam/2042763
Project	Maze Extension: Levels	http://scratch.mit.edu/projects/ScratchEdTeam/2042764
Project	Maze Extension: Rewards	http://scratch.mit.edu/projects/ScratchEdTeam/2042770
Project	Collide	http://scratch.mit.edu/projects/ScratchEdTeam/2042778
Project	Catlibs	http://scratch.mit.edu/projects/ScratchEdTeam/2042781
Project	Scrolling	http://scratch.mit.edu/projects/ScratchEdTeam/2042861
Gallery	Sample Scratch projects	http://scratch.mit.edu/galleries/view/137903
Gallery	Sample arts projects	http://scratch.mit.edu/galleries/view/138296
Gallery	Sample stories projects	http://scratch.mit.edu/galleries/view/138297
Gallery	Sample games projects	http://scratch.mit.edu/galleries/view/138298
Gallery	Maze extensions	http://scratch.mit.edu/galleries/view/138300
Gallery	About me sample projects	http://scratch.mit.edu/galleries/view/138381
Gallery	Dance party sample projects	http://scratch.mit.edu/galleries/view/138382
Gallery	Maze sample projects	http://scratch.mit.edu/galleries/view/138299

ABOUT ME



How can you combine interesting images and sounds to make an interactive collage about yourself?

STEP BY STEP...

1. Add a sprite



paint your own sprite

choose a downloaded or library sprite

get a surprise sprite

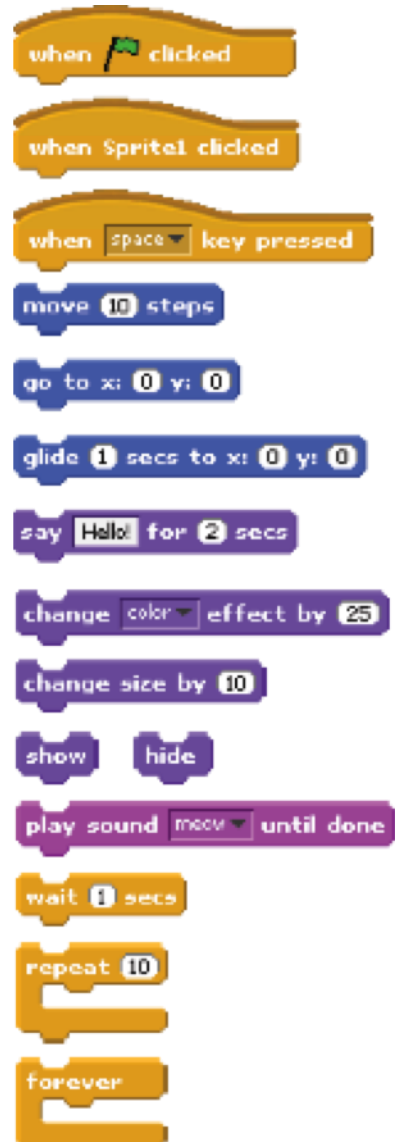
2. Make it interactive



make your sprite interactive by adding scripts that have the sprite respond to clicks, key presses, and more

3. Repeat!

BLOCKS TO PLAY WITH...



DANCE PARTY



Create your own interactive dance party where sprites get down with cool costumes and funky beats.

STEP BY STEP...

1. Add a sprite



paint your own sprite

choose a downloaded or library sprite

get a surprise sprite

2. Make it interactive

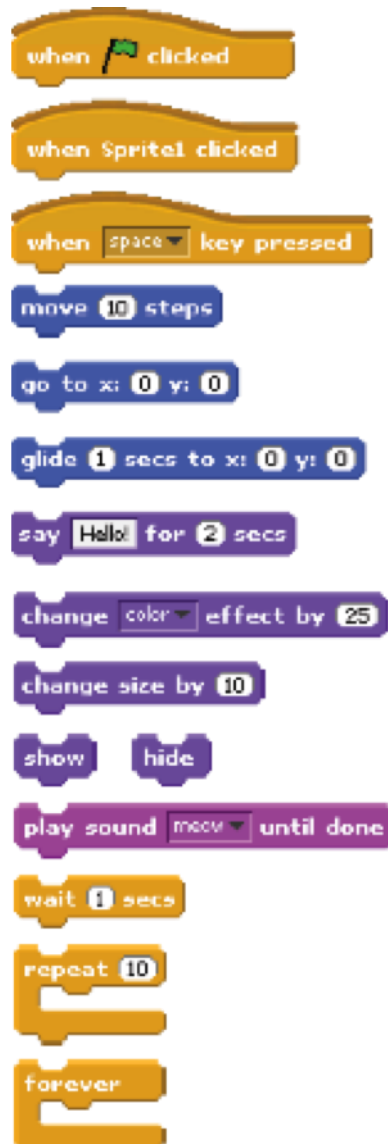


snap blocks together to make your sprite dance

make your sprite interactive by adding scripts that have the sprite respond to clicks, key presses, and more

3. Repeat!

BLOCKS TO PLAY WITH...



ARTS

Here are some blocks that can be useful in arts-themed projects.

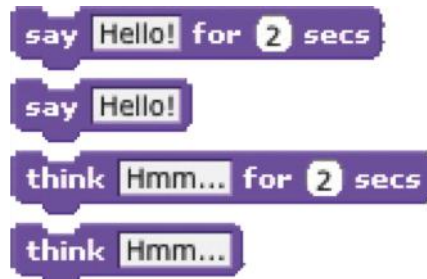
WAIT

Insert a pause



SAY/THINK

Have a speech or thought bubble appear over a sprite



SOUNDS

Play recorded and synthesized audio



VISIBILITY

Make a sprite appear or disappear



LOOP

Repeat stacks of blocks



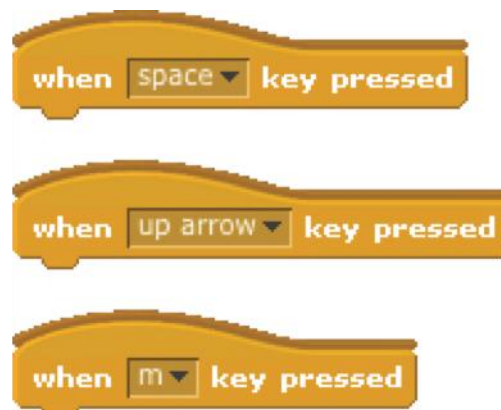
RANDOM

Get a computer-generated number from a specified range



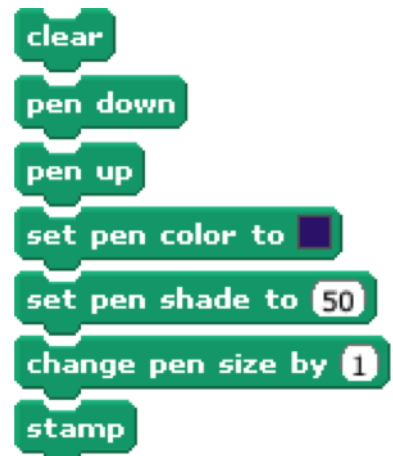
KEY PRESS

Make a sprite respond when different keys are pressed

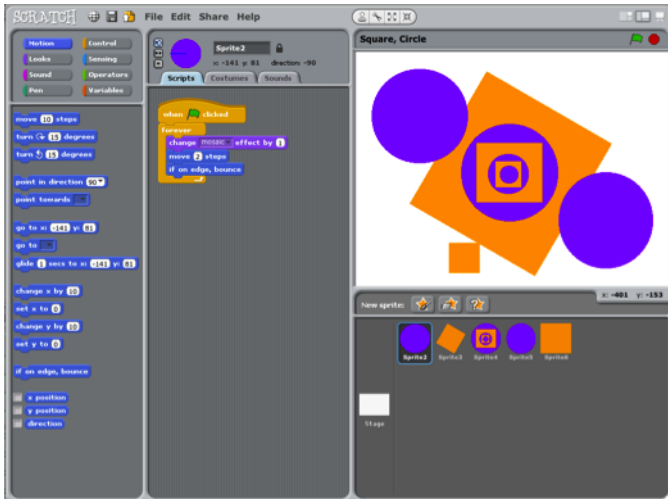


PEN

Leave visual lines and sprite stamps on the stage

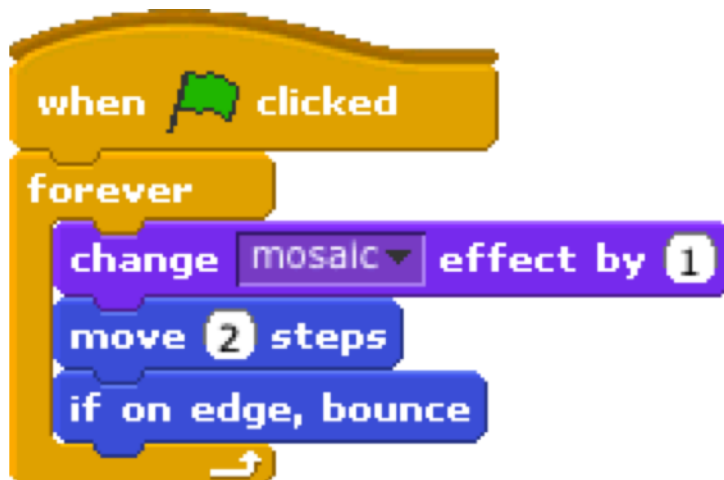
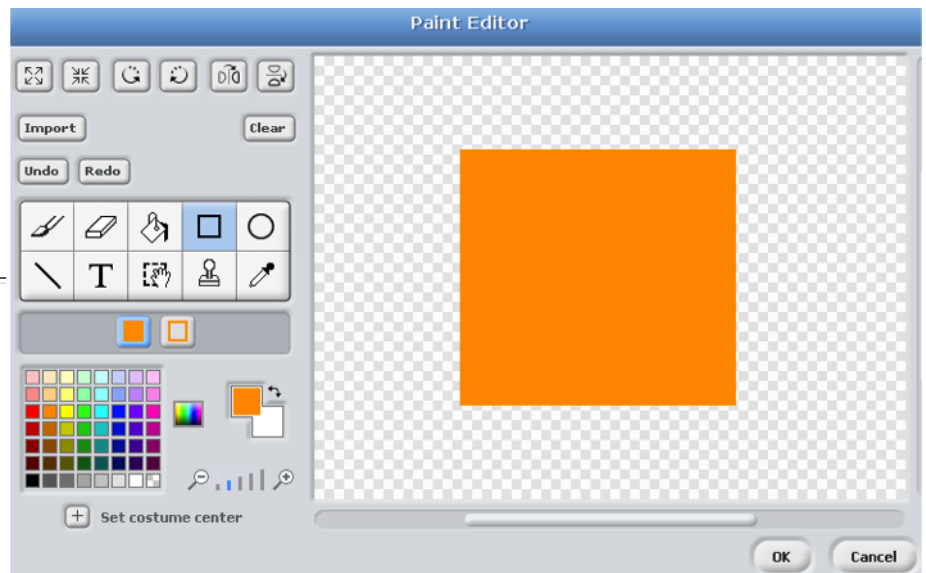


SQUARE, CIRCLE



What project can you create that includes an orange square and a purple circle?

use the paint editor to design sprites that incorporate an orange square and a purple circle

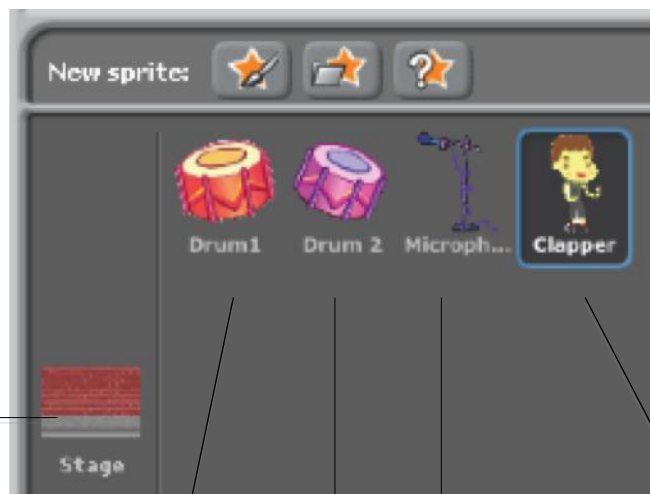


experiment with different motion and looks blocks to bring your sprites to life

BUILD-A-BAND



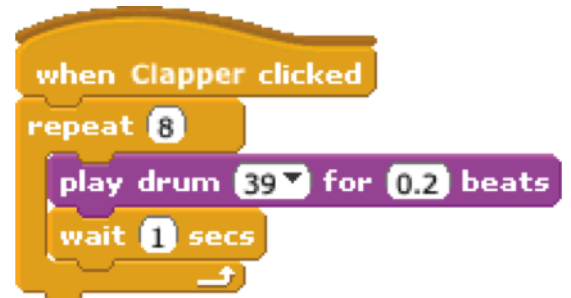
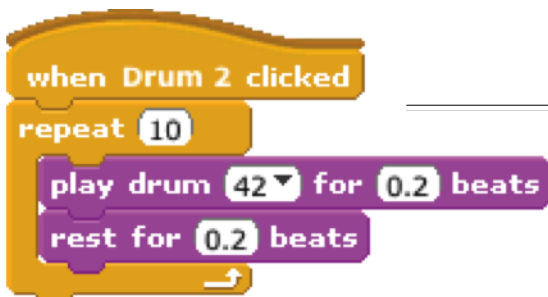
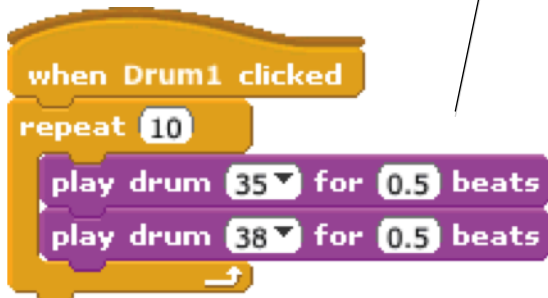
Create your own musical group by pairing sprites with sounds to make interactive instruments.



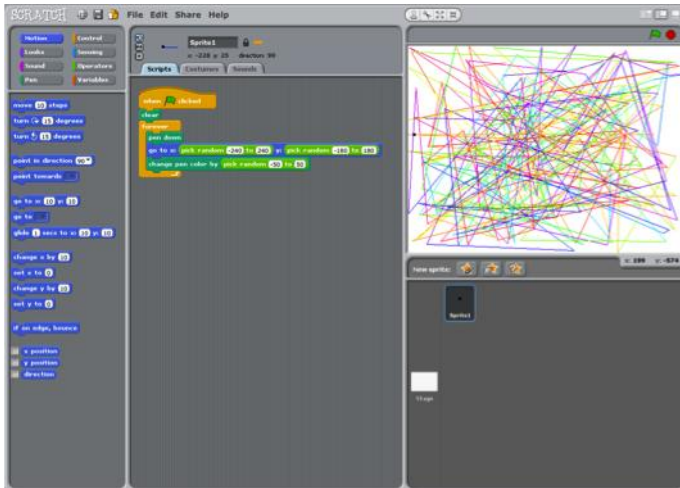
no scripts

use the repeat block to make a sound play more than once

experiment with different music and beats, or import your own sounds

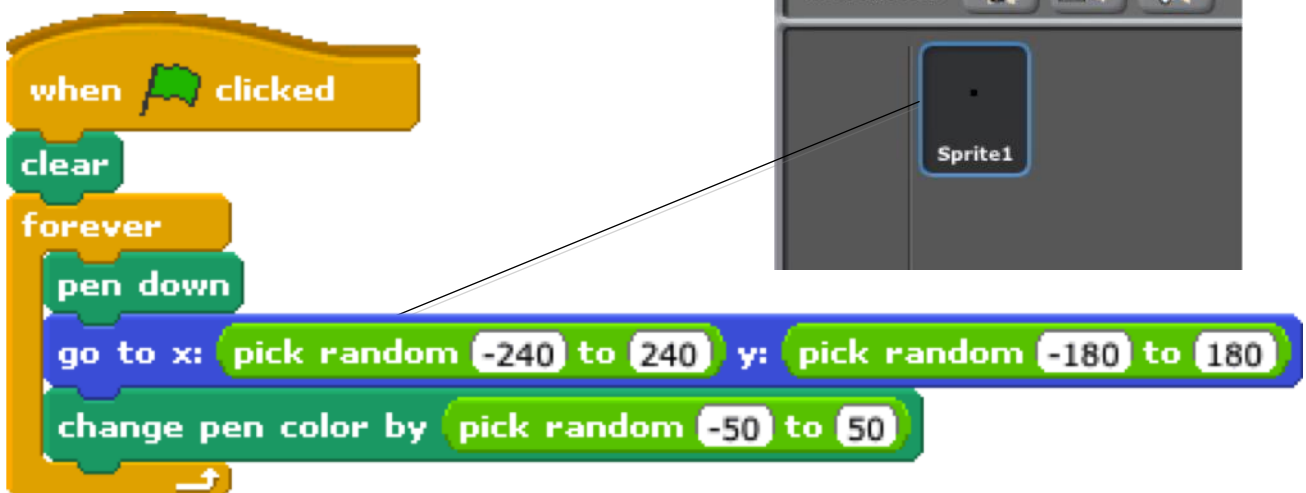
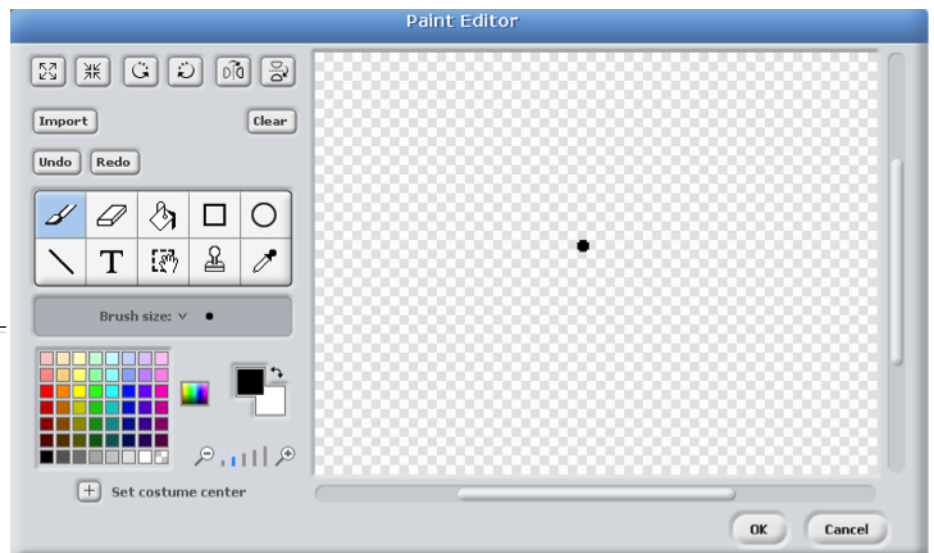


AUTOMATIC DRAWING



Make a project that draws something on its own.

create a sprite that
is just a small dot



STORIES

Here are some blocks that can be useful in story-themed projects.

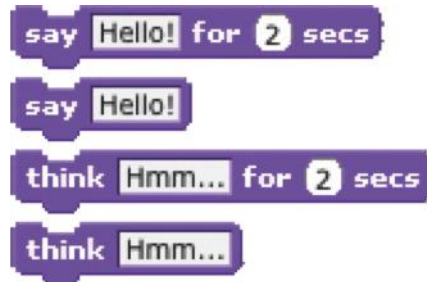
WAIT

Insert a pause



SAY/THINK

Have a speech or thought bubble appear over a sprite



SOUNDS

Play recorded audio



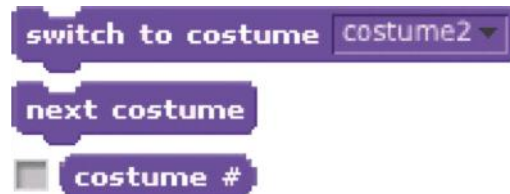
VISIBILITY

Make a sprite appear or disappear



COSTUMES

Change the appearance of your sprite



ASK

Get input to use in a project



STRINGS

Test, access, and change words and sentences



COORDINATE

Synchronize actions between and within sprites



CONVERSATION



Get two characters talking to each other.
Use the **say** and **wait** blocks to coordinate the conversation.



1 script

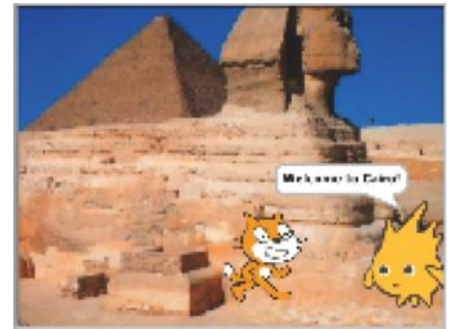
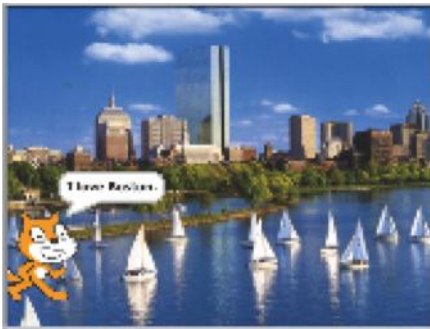
1 script

no scripts
add a background

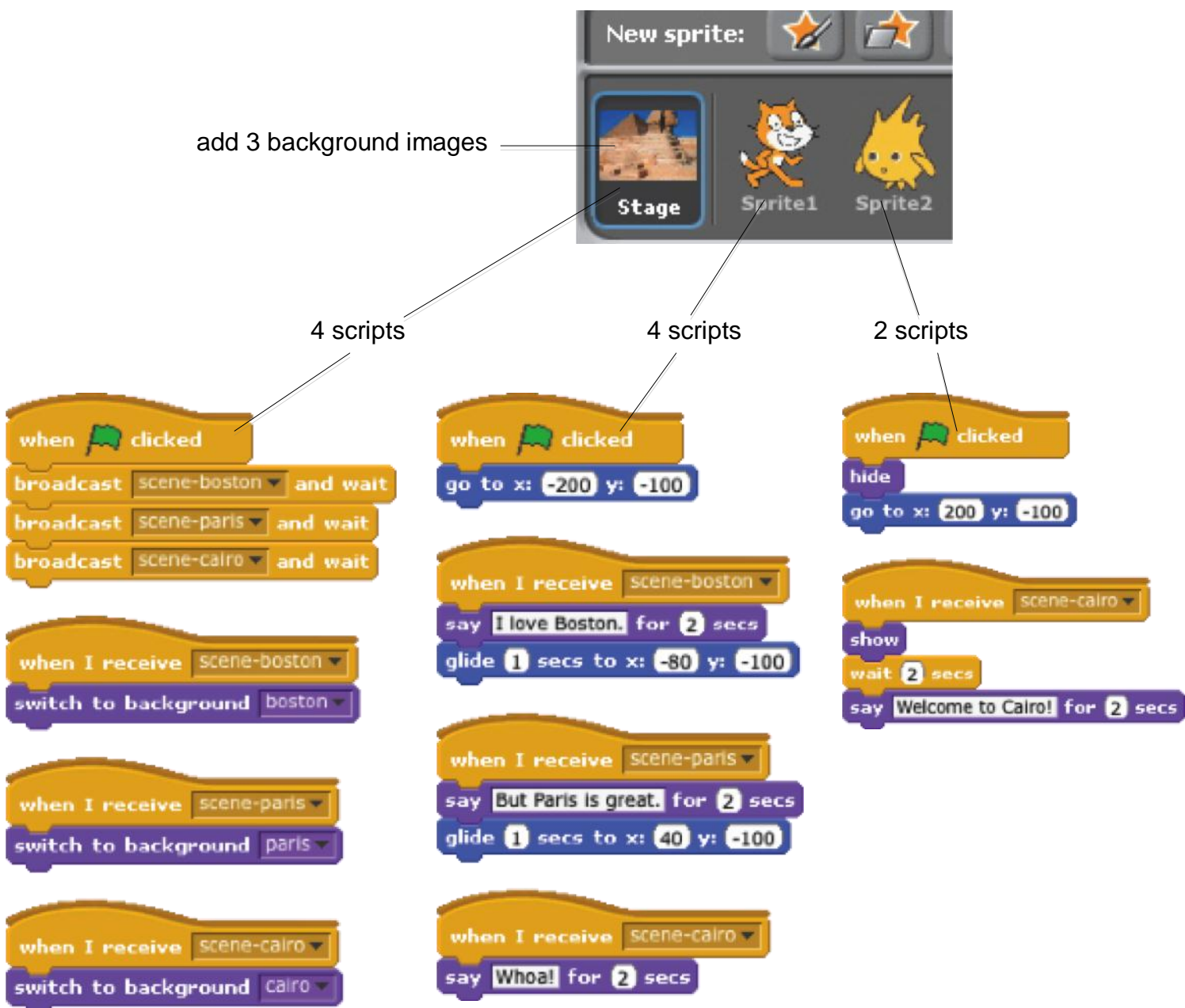
```
when green flag clicked
say Ay me! Sad hours seem long. for 2 secs
wait 2 secs
say Not having that, which, having, makes them short. for 2 secs
wait 2 secs
say Out-- for 2 secs
wait 2 secs
say Out of her favour, where I am in love. for 2 secs
```

```
when green flag clicked
wait 2 secs
say What sadness lengthens Romeo's hours? for 2 secs
wait 2 secs
say In love? for 2 secs
wait 2 secs
say Of love? for 2 secs
wait 2 secs
say Alas, that love, so gentle in his view, for 2 secs
say Should be so tyrannous and rough in proof! for 2 secs
```

SCENES



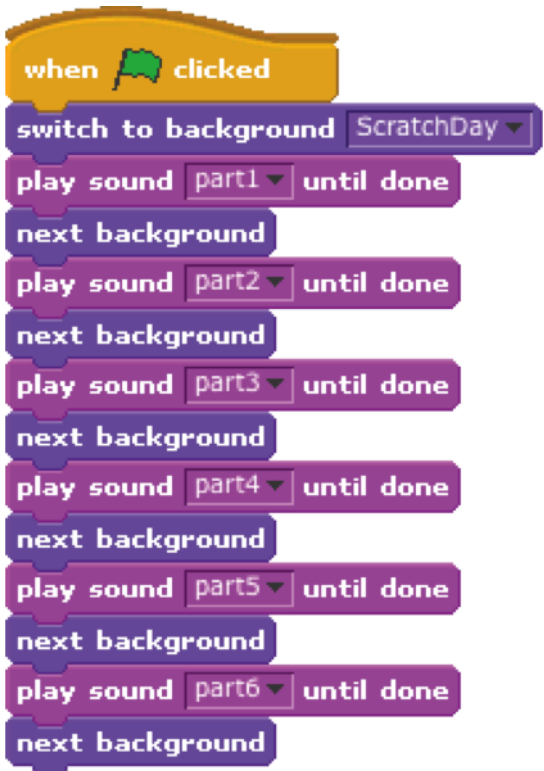
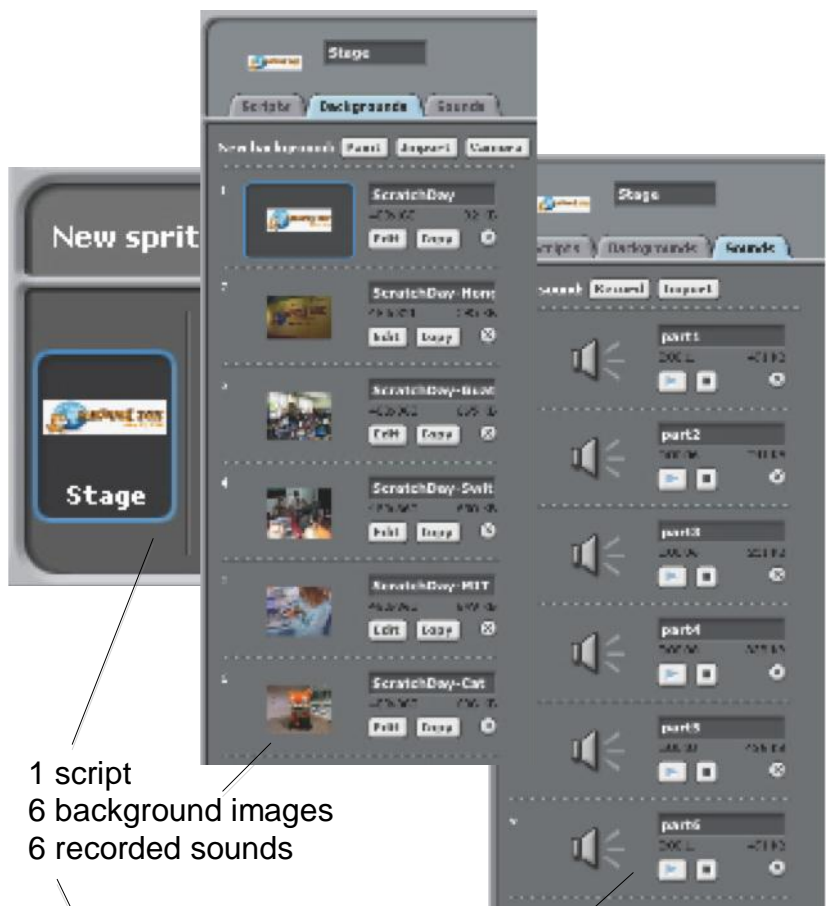
Use the **broadcast** and **when I receive** blocks to create a multi-scene story.



SLIDESHOW



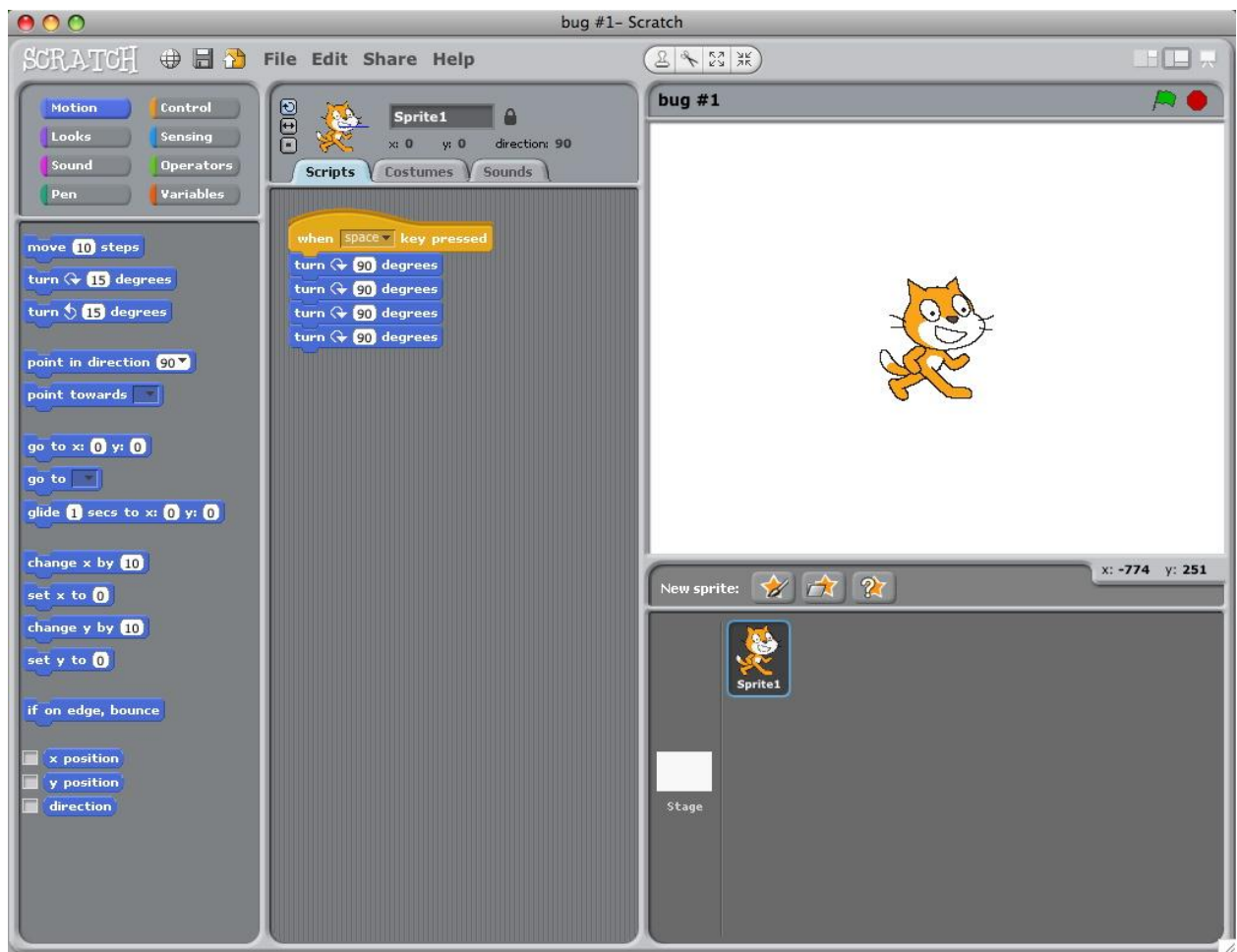
Create your own slideshow – a collection of background images accompanied by audio narration.



record your narration right in Scratch with the sound recorder

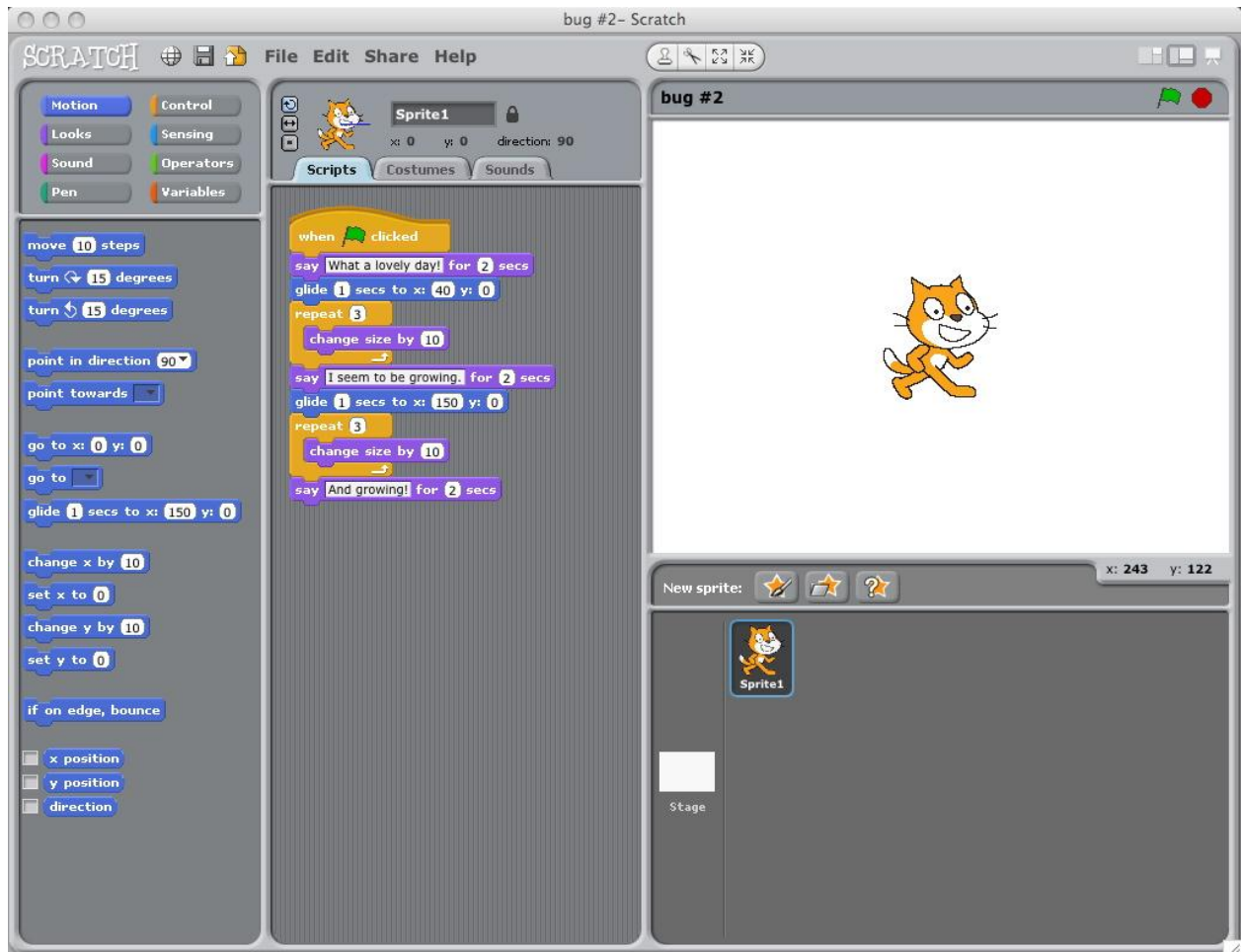
BUG #1

Farooq wants his cat to rotate when he presses the space bar. But the cat isn't moving!
What's going on?



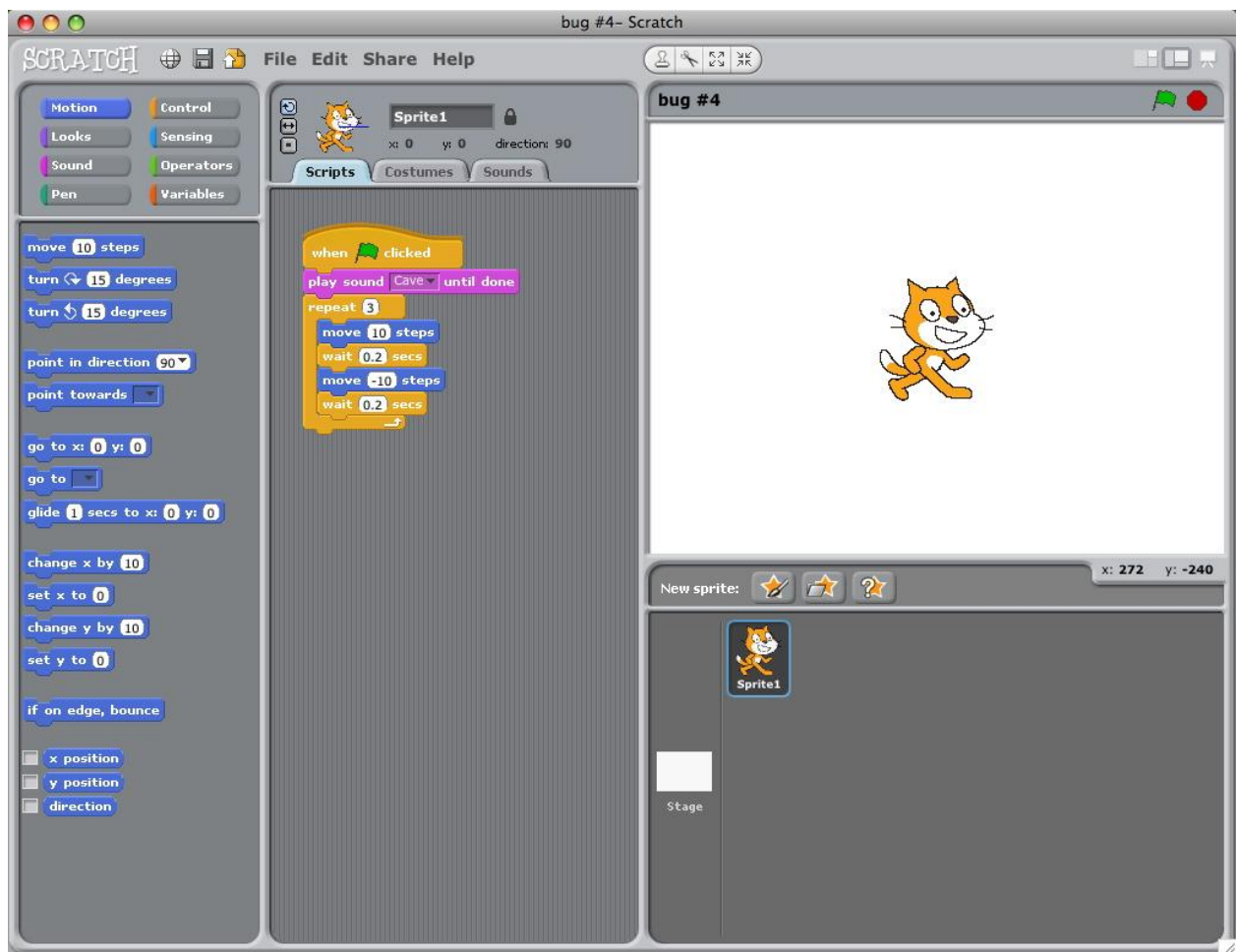
BUG #2

Michelle wants the cat to start in the middle of the stage, then move across the stage and grow. It works the first time she clicks the green flag – but not when she clicks it again!
What's going on?



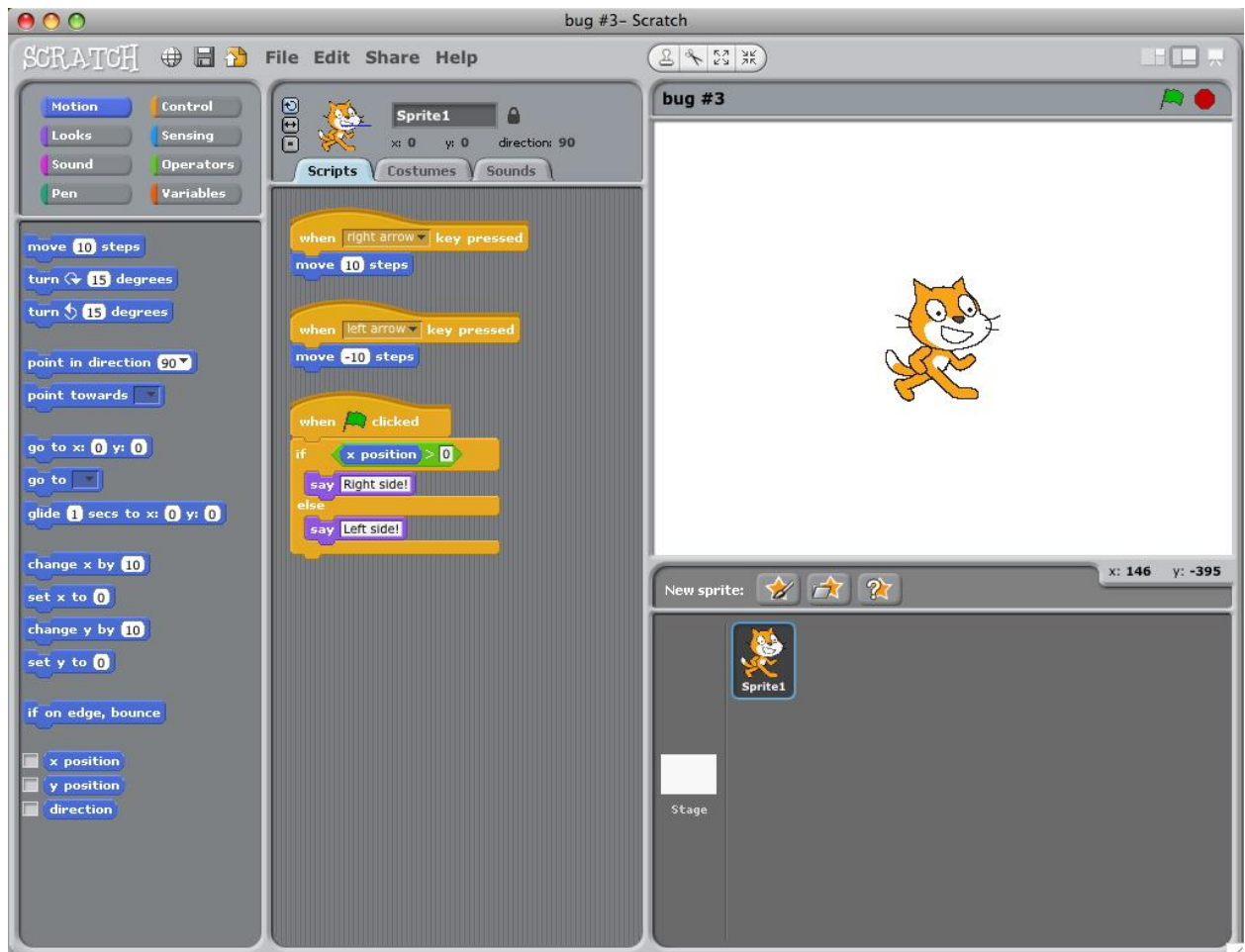
BUG #3

Alex wants his cat to dance to some music. But the cat is dancing after the music is over! What's going on?



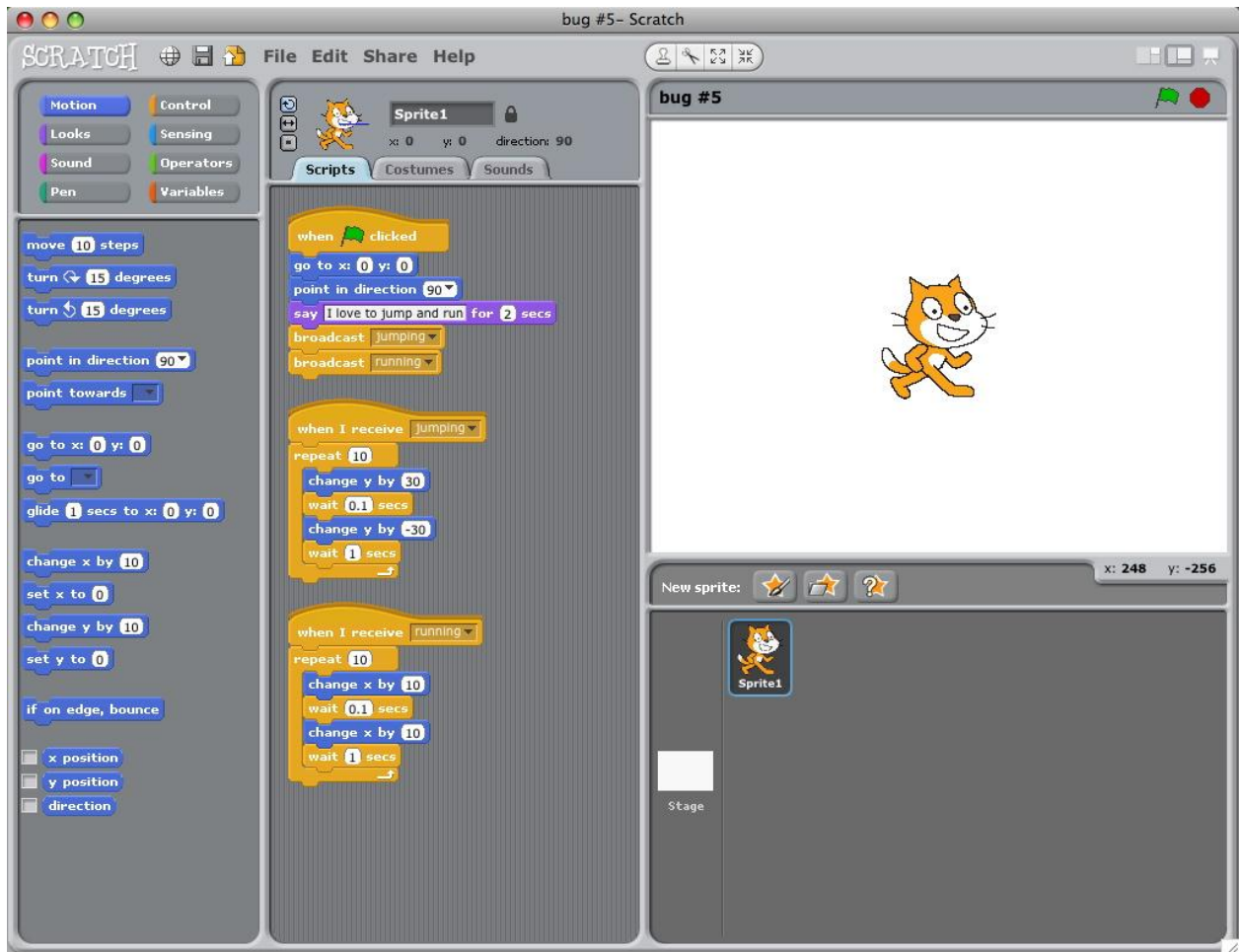
BUG #4

Praneetha wants to control the cat's x-position with the keyboard: right arrow moves the cat right, left arrow moves the cat left. She also wants the cat to say if it's on the right side or the left side, depending on its x-position. The cat's moving, but not saying its position correctly! What's going on?



BUG #5

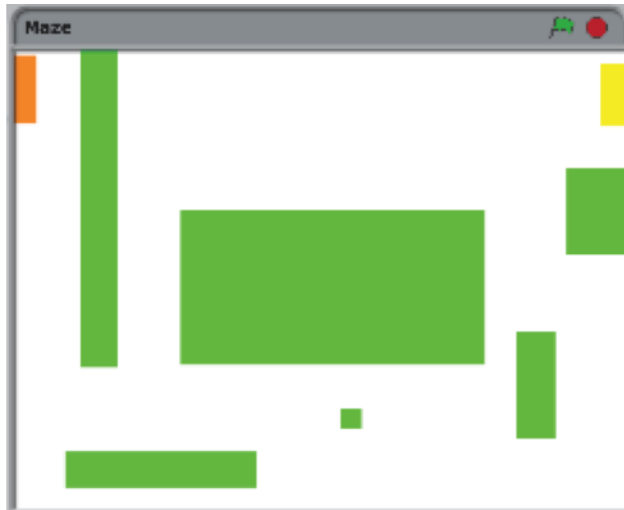
Nobuyuki wants his cat to jump up and down, and then move across the screen. But the cat's hopping across the screen! What's going on?



BUG #6

Design your very own puzzling Scratch program to debug.

MAZE



Create a game where you get a sprite from the start to the end of a maze without touching the walls.



no scripts, draw a maze-like background with colored walls and a differently colored end marker

7 scripts total

move the sprite around



have the sprite bounce off the green walls



players wins when sprite reaches the yellow end marker

GAMES

Here are some blocks that can be useful in games.

TOUCHING

See if two sprites are touching or if a sprite is touching a color



VISIBILITY

Make a sprite appear or disappear



RANDOM

Get a computer-generated number from within a specified range



TIMING

Have the computer keep track of time for you



STRINGS

Test, access, and change words and sentences



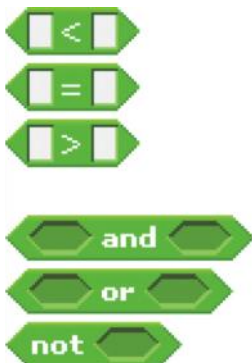
VARIABLES

Store a number or string in a container to access later



COMPARE

Compare values to help make decisions within your game

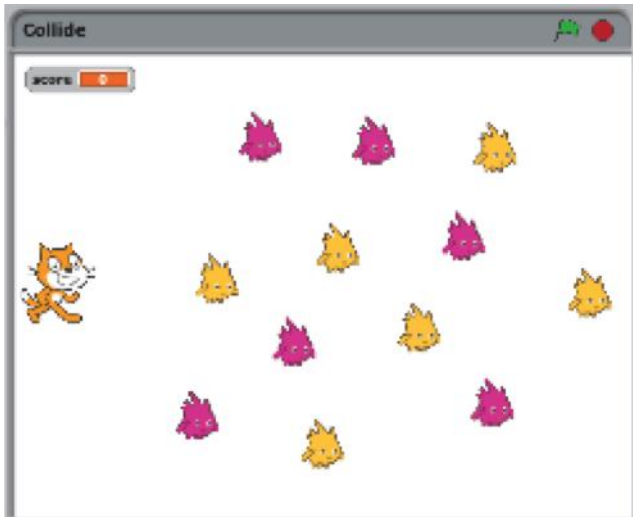


KEY PRESS

Make a sprite respond when different keys are pressed



COLLIDE



Help the cat navigate a field of Gobos. Collect yellow gobos to earn points, avoid pink gobos to avoid losing points.

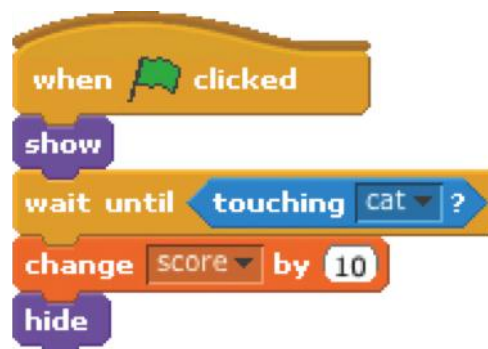


no scripts

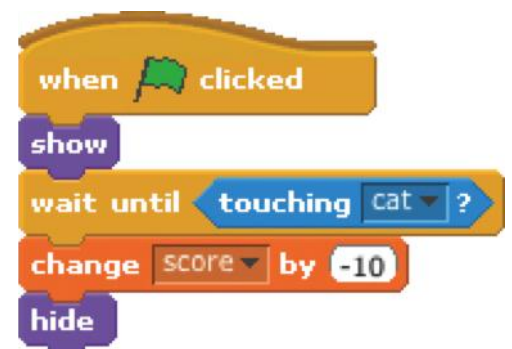
reset the cat's position and the score



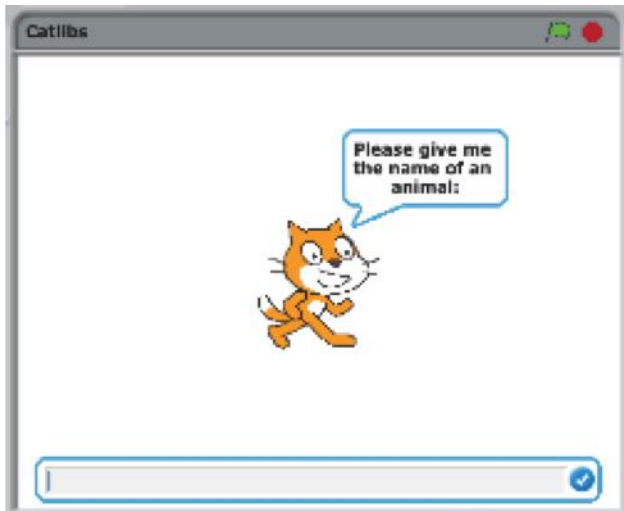
when the cat collides with a yellow gobo, the gobo disappears and the score increases by 10



when the cat collides with a pink gobo, the gobo disappears and the score decreases by 10



CATLIBS



Create a unique Madlib story by collecting user input.



no scripts

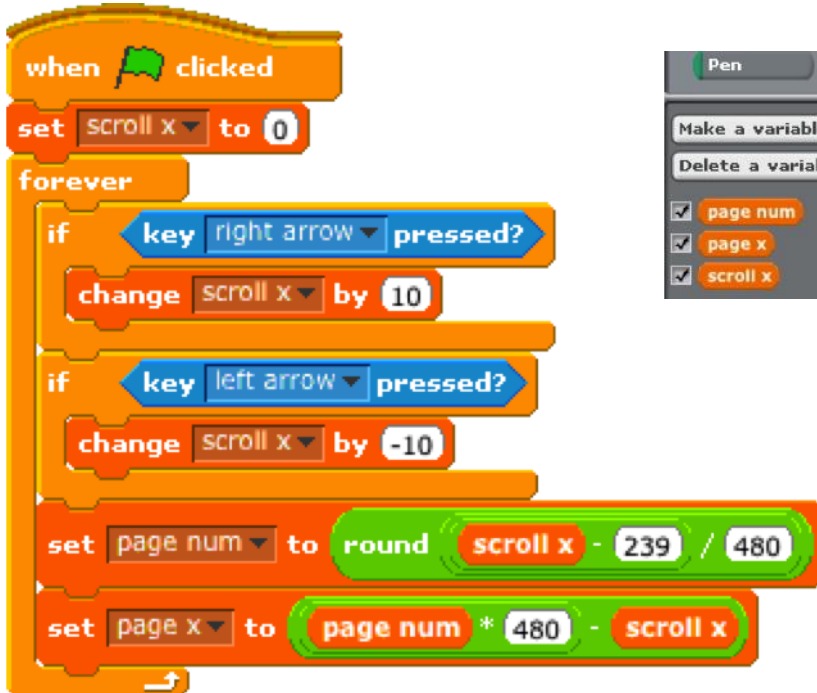
1 script
4 variables



SCROLLING

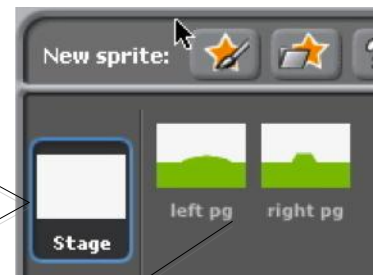


Create the foundation for a side scrolling game.



3 variables

1 script



create two sprites:
one for the left background panel,
one for the right background
panel

add the same (2 or more)
costumes to each sprite

add this script to the left sprite

add this script to the right sprite

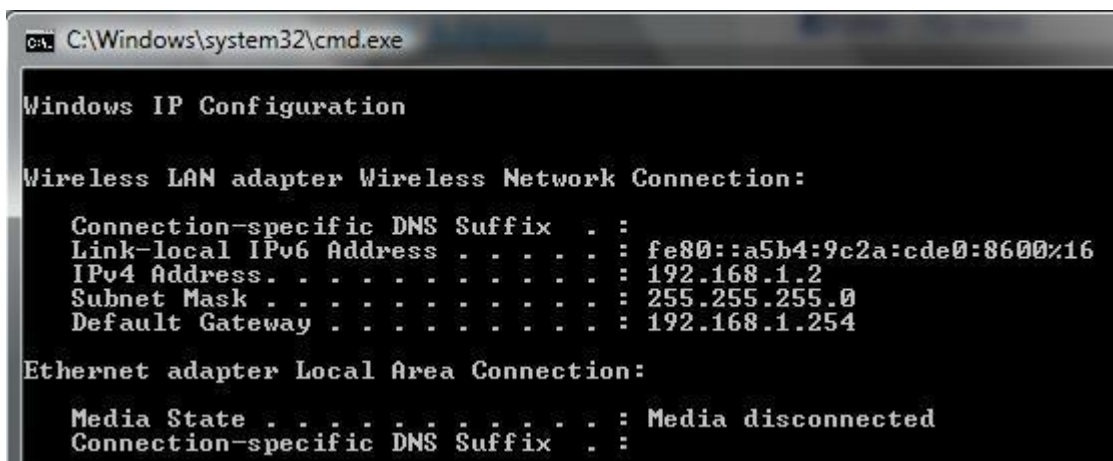


SENSING

Controlling a game with an Android phone

Connections between Scratch and other programs are made using the Scratch networking protocol. With this feature turned on, Scratch automatically sends all broadcasts and values of global variables out to any program connected to it. That program can also send broadcasts and global variables into Scratch. The **Scratch Sensor** is an Android app that uses the Scratch networking protocol to turn the Android Smartphone into a DAQ module and sends its accelerometer and compass sensor information and broadcast two states (jump and walk) to Scratch.

1. Download [Scratch Sensor](#) from the Android Market.
2. Download the [example](#) Scratch project.
3. Note your Computer IP Address. Click the **Start** icon in the Windows taskbar. Paste **cmd /k ipconfig** into the search bar and press Enter. The screenshot shows the IP Address for the Wireless Network is **192.168.1.2**.



```
C:\Windows\system32\cmd.exe

Windows IP Configuration

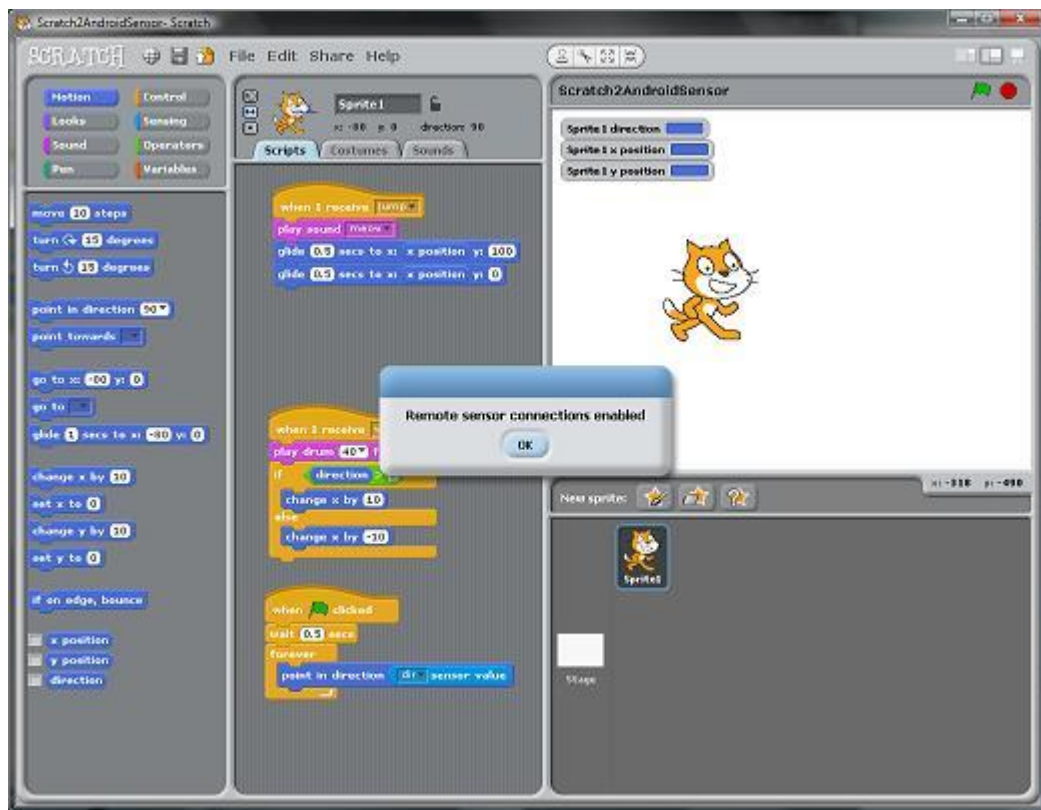
Wireless LAN adapter Wireless Network Connection:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::a5b4:9c2a:cde0:8600%16
    IPv4 Address. . . . . : 192.168.1.2
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.254

Ethernet adapter Local Area Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :
```

4. Load the example Scratch project. A Remote sensor connections enabled dialog should appear. Click OK. Click the green flag to Start.



5. Start Scratch Sensor on your Android smartphone. If your smartphone wifi is not enabled, you need to enable it now. Enter your Computer IP Address that you obtained earlier. Press the Connect Button. You should see a Connected status.



6. Hold the Android Smartphone in an upright position. When you rotate the phone, the direction value should change. The sprite faces only left and right due to the sprite setting (see Scratch programming).
7. When the phone is moved up and down, the jump message is broadcast.
8. When the phone is moved side to side, the walk message is broadcast.

To find out more, see: <http://www.smartphonedaq.com/scratch-sensor.page>

Plan for my final project

Name: _____

A description of the project that I want to create:

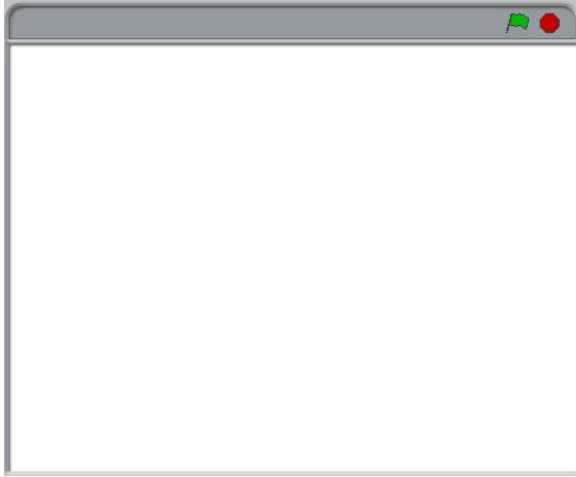
The steps I will take to develop my project:

The resources (e.g. people, sample projects) I already have to develop my project:

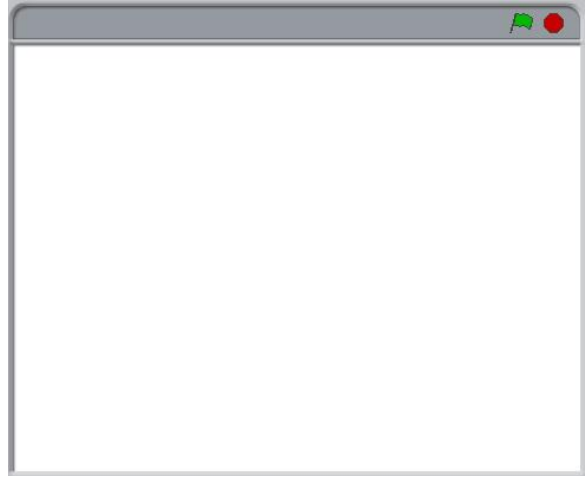
The resources (e.g. people, sample projects) I might need to develop my project:

Sketches of my final project

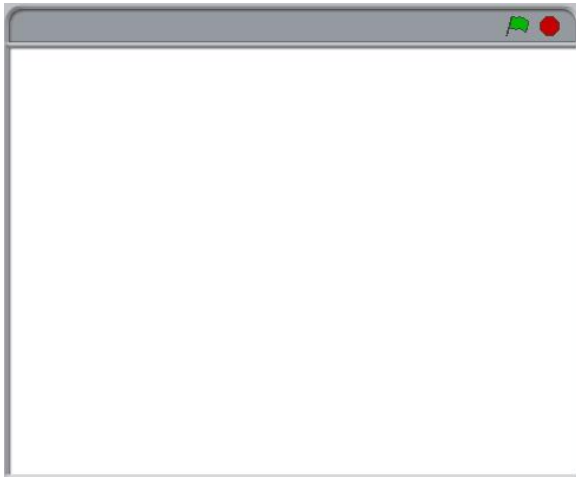
Name: _____



What's happening?
What are the important elements?



What's happening?
What are the important elements?



What's happening?
What are the important elements?



What's happening?
What are the important elements?

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