

Scratch projects

Isaac Regional Council

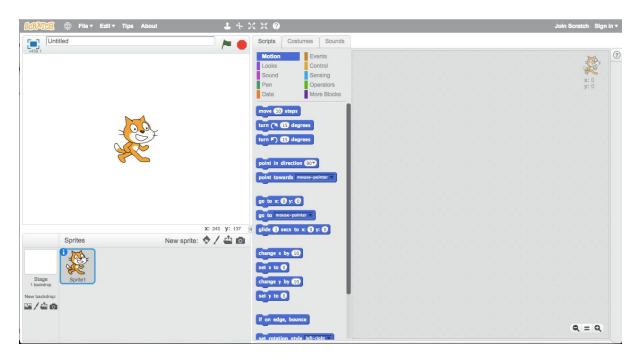
Workshop 1: Introduction to Scratch	2
Workshop 2: Build your first game "Cat jumps over the frog"	4
Workshop 3: Build a simple maze game	6
Workshop 4: Build the Forest of Danger game	7
Workshop 5: Create an Al friend	10



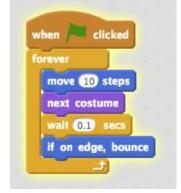
Workshop 1: Introduction to Scratch

https://scratch.mit.edu/projects/editor/

- get to know the Scratch interface
- basics of coding: sequencing, iteration, branching
- basic terminology: sprite, algorithm, debugging
- program a sprite (character or object) to move, display a speech bubble, play a sound, animate and make
- it look like it is walking



Code to make the cat look like it's walking:





Click on left-right arrow to keep the cat upright after bouncing of the edge.

	Sprite1
	🗧 x: 166 y: 0 direction: -90° 🕣
Sec.	rotation style: 🏷 \leftrightarrow 🛛
66	can drag in player:
	show: 💌
1	

Code to make the cat display a speech bubble and then after 2 seconds, play a sound "meow".





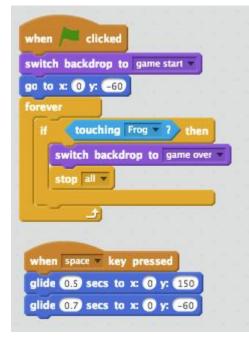
Workshop 2: Build your first game "Cat jumps over the frog"

https://scratch.mit.edu/projects/96060964/

- program a user-controlled sprite
- program an automated sprite
- program a "Game over" screen



Cat's code:





Frog's code:

	ien /	•	licke	•			
fo	rever						
	go to	ж (270	y: 🧲	80		
	wait	1) si	ecs				
	glide	2 5	ecs	to x:	-24	10	 80

Two backdrops:

- 1) Game start
- 2) Game over

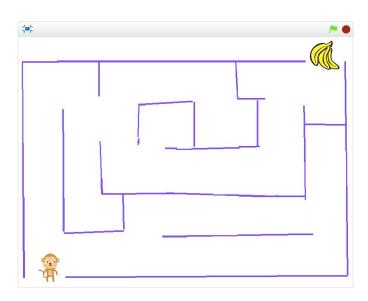




Workshop 3: Build a simple maze game

https://scratch.mit.edu/projects/176207088/

- draw your own maze background
- program your player sprite to recognise when it is touching a maze wall
- program the sprite to say, "You win" when it touches the target.



Monkey's code:

when up arrow we key pressed	
change y by 10	
next costume	
	when 🖊 clicked
when down arrow v key pressed	go to x: -194 y: -154
change y by -10	forever
next costume	if touching color ? then
when right arrow v key pressed	go to x: -194 y: -154
change x by 10	if touching Bananas ? then
next costume	say You Win! for 2 secs
	play sound clapping - until done
when left arrow - key pressed	
change x by -10	
next costume	

Banana has no code.

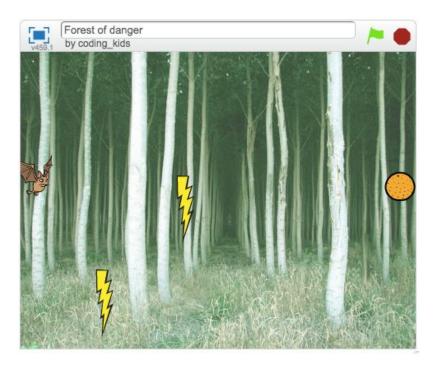
Maze is a backdrop and has no code.



Workshop 4: Build the Forest of Danger game

https://scratch.mit.edu/projects/112230999/

- explore XY coordinates in more detail, control sprites along the vertical axis
- duplicate sprites to do less work
- program two game endings: "Game over" & "You win"



Bat's code:

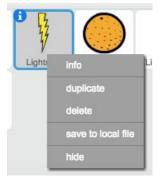
when up arrow v key pressed	
change y by 10	
when down arrow key pressed	
change y by -10	
	when / clicked
when right arrow * key pressed	go to x: -218 y: 21
change x by 10	forever
	next costume
	wait 0.2 secs
when left arrow key pressed	walt 0.2 sets
change x by -10	change y by pick random -10 to 10



Lightning bolt code: Create just one lightning bolt sprite.

ver	forever
how	if touching Bat1 ? then
lide 1 secs to x: -138 y: -170	switch backdrop to Game Over
ide	stop all 👻

First test and debug your code. Then duplicate the lightning bolt sprite. Right (mouse) click the lightning bolt sprite, then click "duplicate". Duplicating a sprite with errors will only duplicate the errors in code.



The duplicated lightning bolts will have the same XY coordinates as the original lightning bolt sprite. This means that if you click on the green flag, the duplicates will lie directly underneath the original and you will only be able to see the original lightning bolt sprite.

Change the x coordinates in order to move the duplicated lightning bolt sprites to the left or the right of the original. The original lightning bolt sprite has an x coordinate of -138. Give the 2nd lightning bolt sprite a different x coordinate, e.g. -40. Give the 3rd lightning bolt sprite a different x coordinate, e.g. 62.



Orange has no code.



Create 3 backdrops:

- 1) Forest (Game start)
- 2) Game over
- 3) You win

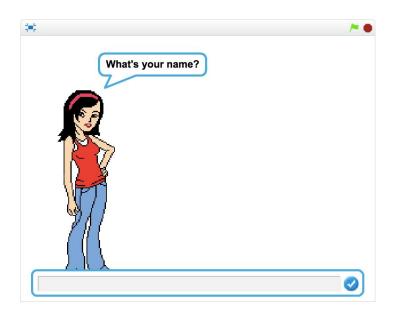




Workshop 5: Create an AI friend

https://scratch.mit.edu/projects/110158950/

- explore different data types: numbers, text
- use text as data
- use variables to store data for later use
- program a sprite to ask questions and respond to the player's responses





Ruby's code:

whe	n 🎮	click	ed														
	Decharge																
set		Age															
say	Hello!	for	2) sec	s													
ask	What's	s your 1	iame?	and v	vait												
say	join	Nice t	o mee	t you,	answe	er) f	ior 3) sec	s								
ask	How o	id are	/ou?	nd wa	uit]												
	F		-														
H	an	swer	- 6	lubys_	Age	ther	•										
else			_														
else ii		answ	er) <	Rub	ys_Age		hen										
1		7			ys_Age er than		_	oin (Ruby	s_Ag	•	years	old) fo	r (4) se	cs
i		7					_	pin (Ruby	s_Ag	•	years	old) fo	r (4) se	cs
i	say	join	You'r	e young		me. I'i	_		Ruby) fo			cs
i	say	join	You'r	e young	er than	me. I'i	n ja										cs
i	say	join	You'r	e young	er than	me. I'i	n ja										cs
i	say Ise Say	join join	You'r You'r	e young e older	er than	me. I'r	n ja										cs
	say Ise Say	join join s your	You'r You'r	e young e older ite food	er than than me	me. I'n I'm wait	n jo	R	ıbys_	Age	yea	irs old		for (65