


Scratch Programming Lesson 11:
Game Programming Part 2 – Sprites

In Lesson 11, we will create all necessary sprites for Mini Mario game. Especially, we will focus on Mario and show how to make him walk, jump, and squat.


1. Create **Fruit Platter** sprite

Name	Look	Script	How to Create
1. Fruit Platter 	-Delicious	None	Import costume from library


Import the Fruit Platter image by clicking  then select COSTUMES->THINGS.

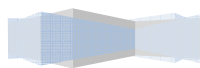
Scroll to select fruit_platter  and click OK to save. Rename the costume as *Delicious*. Save this sprite as **Fruit Platter**.

2. Create **Princess** sprite

Name	Look	Script	How to Create
2. Princess 	-Surprised -Happy	-Jump for Joy	1. Import first costume from library 2. Create another costume based on the first costume 3. Create Jumping for Joy script

Import the image from Scratch library by clicking  then select

COSTUMES->PEOPLE. Scroll to select squaregirl  and click OK to save.



Rename this costume as *Surprised*  and modify Surprised to become *Happy*




Add a script to keep changing to next costume.



Save this sprite as **Princess**.

3. Create **Coin** sprite

Name	Look	Script	How to Create
3. Coin 	-Spin1 -Spin2 -Spin3	-Spin	1. Create custom costumes 2. Import sound 3. Add Spin script

Create three costumes:



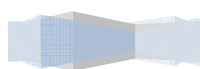
Add a script to create the spinning effect:

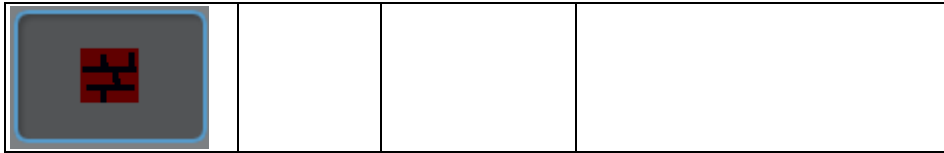



Save this sprite as **Coin**.

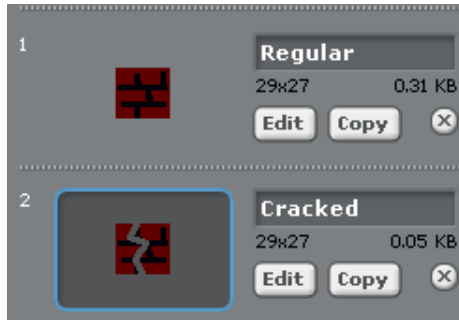
4. Create **Brick** Sprite

Name	Look	Script	How to Create
4. Brick	-Regular -Cracked	-Crushed	1. Create custom costumes 2. Import sound 3. Create Crushed script







Use  to create a new Sprite which has two costumes: *Regular* and *Cracked*.



Save this sprite as **Brick**.

5. Create **Bat** Sprite

Name	Look	Script	How to Create
5. Bat 	-Fly1 -Fly2	-Fly	1. Import both costumes from the library 2. Import sounds 3. Add Fly script

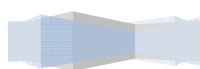
Import the image by clicking  then select COSTUMES->ANIMALS. Scroll to

select  and ; save them as *Fly1* and *Fly2*.


Add a script to simulate the wing flapping:




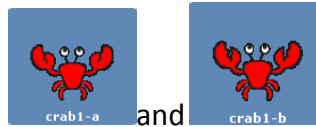
Save this sprite as **Bat**.



6. Create **Crab** sprite

Name	Look	Script	How to Create
6. Crab 	-Walk1 -Walk2	-Walk	1. Import Walk1 from library 2. Create Walk2 based on Walk1 3. Create Walk script

Import the image from Scratch library by clicking  then select




COSTUMES->ANIMALS. Scroll to select *Walk1* and *Walk2*.

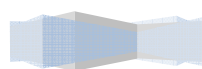
Add a script to simulate its claws opening and closing:



Save this sprite as **Crab**.

7. Create **Mario** sprite

Name	Look	Script	How to Create
7. Mario 	-Walk1 -Walk2 -Jump Up -Jump Down -Squat Down	-Walk -Jump -Die -Grow -Shrink	1. Create custom costumes 2. Import sounds 3. Create action script blocks



7.1 Create Mario's Costumes

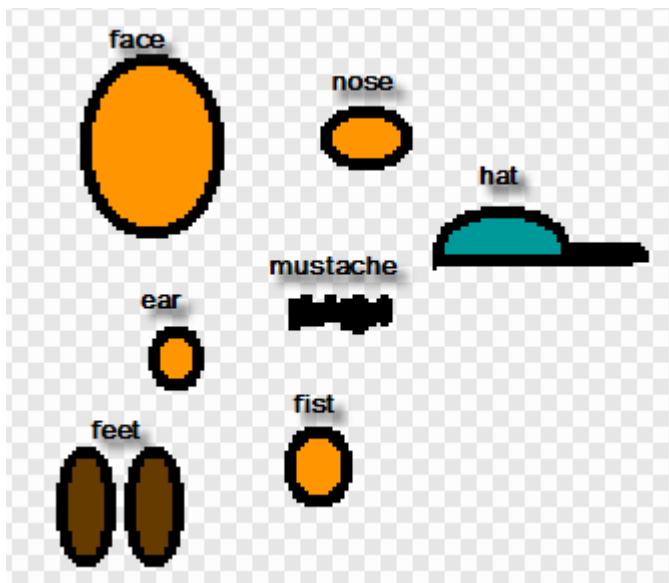
Name	Look
7 Mario	-Walk1 -Walk2 -Jump Up -Jump Down -Squat Down



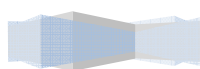
To create Mario's hat:



You should have all these pieces before moving on.

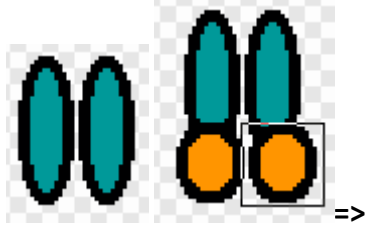


TO PUT MARIO'S HEAD TOGETHER:





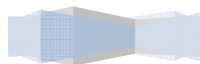
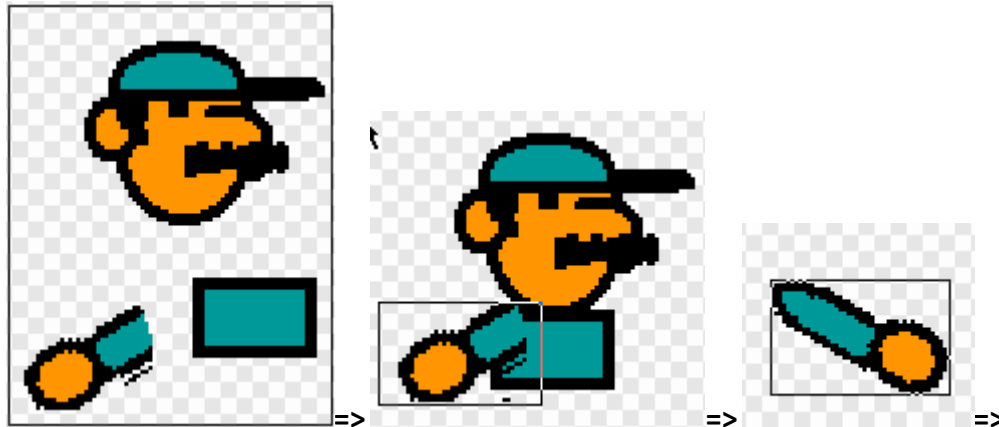
TO PUT MARIO'S UPPER BODY TOGETHER:



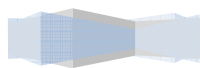
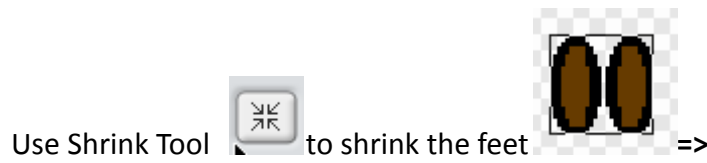
Select one arm =>



Trim the top =>



TO CREATE MARIO'S LOWER BODY:



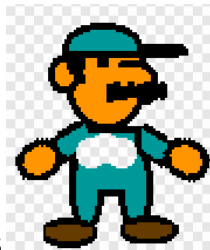


Fill with the same color

TO PUT MARIO'S LOWER BODY WITH THE REST OF HIS BODY :



Connect lower body to the upper body =>



Erase lines =>



Fill with color.

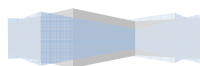
TO ROTATE ONE LEG:

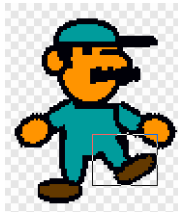


Select a leg =>



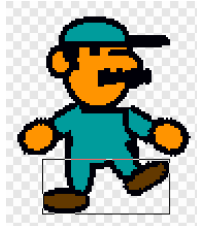
Rotate it =>





Reconnect

TO CREATE COSTUME **WALKING2**:



Select both legs.

=>



Flip it.

=>



Reconnect.

I've also created other costumes: *Jumping Up*, *Jumping Down*, and *Squat Down*.



Jumping Up

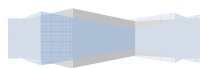


Jumping Down

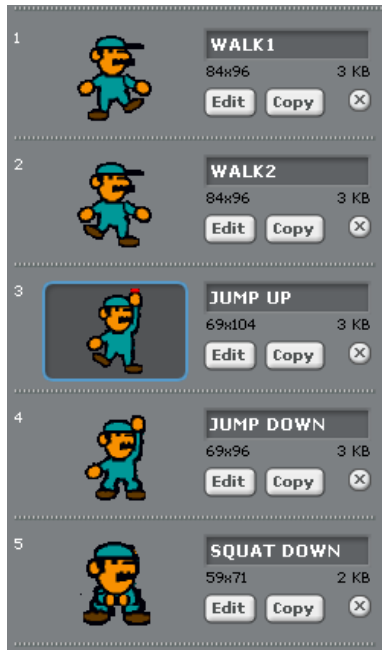


Squat Down

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The complete list of Mario's costumes is shown below:



7.2 Create Mario's Scripts

Let's create **Walk** script and **Jump** Script and add more in Lesson 12,

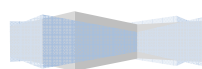
Name	Script
8. Mario 	-Walk -Jump

CREATE WALK SCRIPT:

Add a script that makes Mario show up at a starting location when the game starts:



Add a script that makes Mario move right when the right arrow is clicked:



Add a script that makes Mario move left when the left arrow is clicked:



```
when left arrow key pressed
switch to costume WALK2
change x by -20
```

Add a script that makes Mario squat down when the down arrow is clicked:



```
when down arrow key pressed
switch to costume SQUAT DOWN
```

CREATE JUMP SCRIPT

Add a script that makes Mario jump up when the up arrow is clicked:



```
when up arrow key pressed
switch to costume JUMP UP
change y by 30
wait 0.2 secs
switch to costume JUMP DOWN
change y by -30
```

