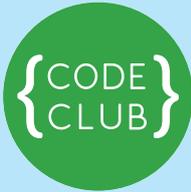


Level

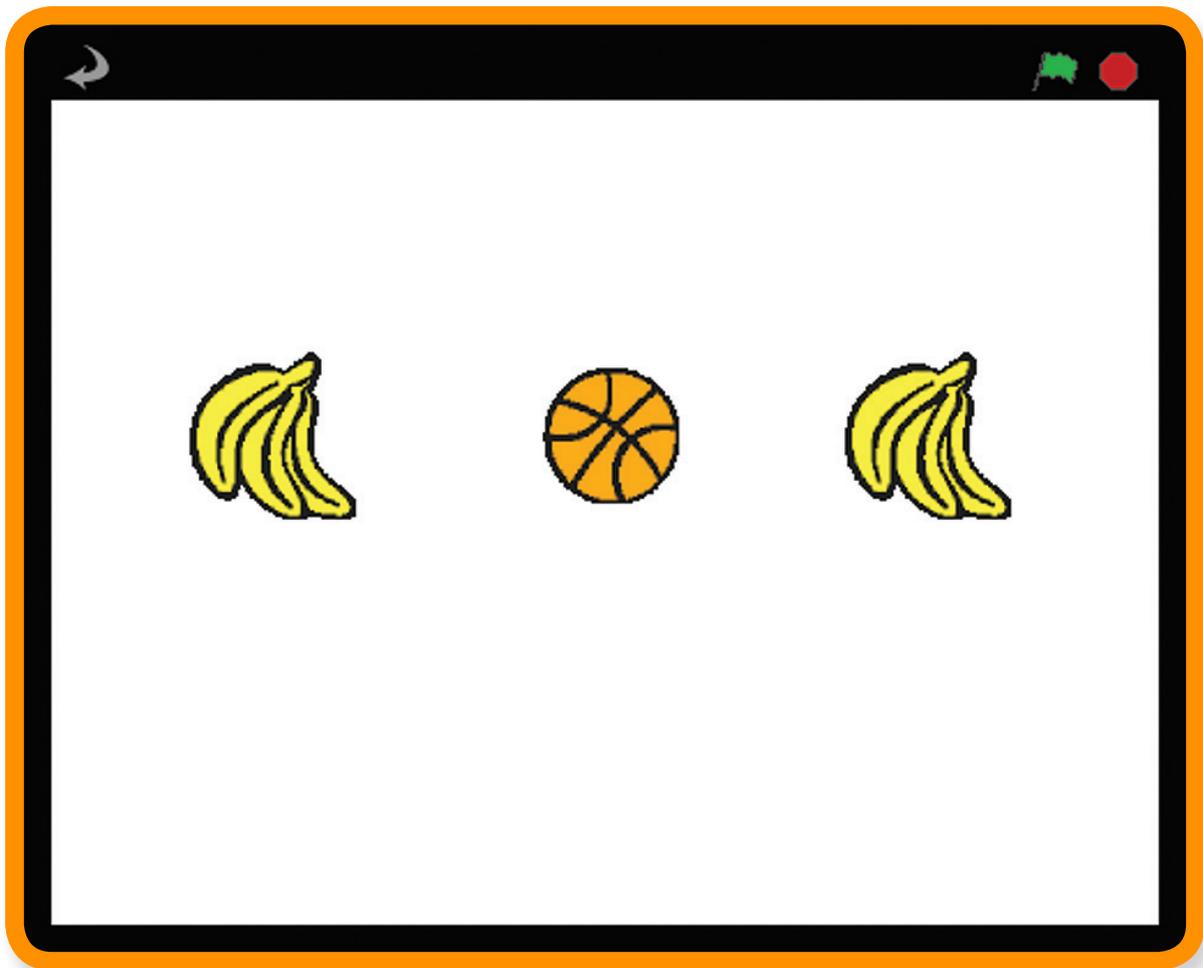
2

Fruit Machine



Introduction:

This is a game that has three sprites that change costume. You have to stop them when they're showing the same picture (like a fruit machine!).



Activity Checklist – Follow these **INSTRUCTIONS** one by one



Test Your Project – Click on the green flag to **TEST** your code



Save Your Project – Click on this to **SAVE** your work



STEP 1: Create a sprite that changes costumes

Keep track of your progress by ticking off the boxes below:

 Activity Checklist

Let's import the different pictures for the game

1. **Start a new scratch project.** Delete the cat by **right clicking** it and clicking **Delete**
2. **Import** a new sprite.
3. Choose an image from any folder. We used **things/bananas1**, but you can use any image you want to.
4. Click the **Costumes** tab and import two more things so there are three in total (we used **animals/bee1** and **things/lego**, but you can use any images).

Now we've got some costumes, we want the sprite to change between them.

STEP 2: Making the picture change

 Activity Checklist

1. Click the **Scripts** tab.
2. Click **Control** and drag a **when flag clicked** into the scripts area. This will be triggered when we click the **green flag**.
3. Add a **forever** and **attach** it so it snaps to the bottom.
4. **Click the green flag** in the top right. Notice that a white outline is around our script. It's running because we clicked the green flag, which triggers this.
5. Now click **Looks** and drag in a **next costume**
6. How do we slow it down so it isn't changing so quickly? Click **Control** and drag in a **wait 1 secs**
7. Adjust the time until it's repeating at a faster pace (a time of 0.1s looks good). What would happen if we didn't have the **wait** block?



Keep track of your progress by
ticking off the boxes below:

Test Your Project

Click the green flag button.

Do the costumes change at a sensible rate?



SAVE YOUR PROJECT



Things to try

- Adjust the time in the wait block. What numbers do you think would make the game too easy, or too hard?

STEP 3: Making it stop when we click on it

Activity Checklist

Great! We can make the sprite change costumes forever, but how do we make it stop when we click on it?

1. Create a new variable by clicking **Variables** and **Make a variable**
Call it **stopped** and make it just for this sprite, then uncheck the box next to it so it doesn't display on the stage.
2. Set **stopped to 1** when someone clicks on the image using **when sprite clicked** and set **stopped to 0** making sure to change the value from **0** to **1**.

Keep track of your progress by ticking off the boxes below:

3. Now we need to make the image stop changing when the variable **stopped** equals **1**. Click **Control** and change the **forever** loop to a **forever if** and use a new equals operator to check if

stopped equals **0**

```

when green flag clicked
  forever if stopped = 0
    next costume
    wait 0.1 secs
  
```

4. Finally, add a **set stopped to 0** underneath the **when flag clicked**

Test Your Project

Click the green flag, wait for a moment, then click on the sprite.

Does it change costume before you click on it?

Does it stop when you do click on it?

Start the sprite again. Does it stop when you put the mouse pointer on it, without clicking? Does the sprite stop when you click somewhere else on the Stage?

Somewhere else in the Scratch window? Somewhere outside the Scratch window?



SAVE YOUR PROJECT



STEP 4: Creating the other sprites

Keep track of your progress by ticking off the boxes below:

 Activity Checklist

Now we need to make the other sprites so we can play our game!

1. Duplicate the sprite (**Sprite1**) by right clicking on it in the bottom right corner.
2. Duplicate it again so there are 3 sprites on the screen.
3. Move each sprite so they are in a line. Make them a bit smaller with if you need to.



 Test Your Project

Click the green flag. All the sprites should change.

Try to stop them all on the same picture!



SAVE YOUR PROJECT



Things to try

When you start the game just after you've loaded it, all the sprites show the same costume and change in unison. How about you make the sprites change to a random costume when the green flag is clicked?

Hint: try picking a random costume for each sprite when the game is started.

Keep track of your progress by
ticking off the boxes below:

Well done you've finished the basic game. There are more things you can do to your game though. Have a go at these challenges!

Challenge 1: Make the game harder

Change the difficulty of the game somehow. Just making the costumes change quicker is easy. Try and do something more imaginative. Some ideas you might like to try:

- Change the number of costumes each sprite has.
- Make some sprites have unique costumes.
- Have different times between costume changes.
- Have each sprite move to a random costume rather than the next one.

Have fun coming up with your own things!

Every time you make a change, think about whether it make the game easier or harder. Is the game too easy or too hard? How can you adjust the difficulty so it's just right?

Challenge 2: Make the game get harder and easier over time

Different people will have different skills at playing the game. **How could you make the game adjust its difficulty depending on the player?**

One way you could do it is to **adjust the speed the costumes change at**. You can use a variable, called **delay**, to give the duration of each sprite's wait block. If the player wins the round, the delay can be reduced a little (to make the game harder). If the player loses the round, the delay can be increased a little (to make the game easier).

Challenge 3: Detect when all the sprites have stopped on the same costume

The aim of the game is click on the sprites so they're stopped while showing the same costume. It would be nice if the stage detected when you'd finished playing and then told you if you had won or lost by checking to see if each sprite had the same costume.

First, the stage needs to know when the player has finished. We can do this by having the stage check to see if all sprites have stopped moving when we click on one of them. Go back and modify each of the **sprite# clicked** blocks to **broadcast** a new message, **checkForEnd**

The Stage can respond to this message and check if the game is over by seeing if all three sprites' **stopped** variables are set to **1**, by using the **x position of Sprite** block for each sprite, and changing "x position" to **stopped**. If all three sprites have a **stopped** value of **1**, we know the game is over and we can check to see if the player has won.

To do this, we can use the same **x position of Sprite** block, but instead of looking at the **stopped** variable, we can look at the **costume #** and see if **Sprite1** has the same costume as **Sprite2**, and if **Sprite2** has the same costume as **Sprite3**.

To do this, you'll need an **if** block to check each **stopped** variable, and inside that an **if... else** block to see if the player has won or lost by comparing each **costume #**

```
when I receive checkForEnd
if (stopped of Sprite1 = 1 and stopped of Sprite2 = 1 and stopped of Sprite3 = 1)
if (costume # of Sprite1 = costume # of Sprite2 and costume # of Sprite2 = costume # of Sprite3)
else
```

From this point on, you could announce the result of the game using a **broadcast** and respond to this with another sprite. Maybe get Felix back to congratulate or commiserate the player?

Well done you've finished, now you can enjoy the game!

Don't forget you can share your game with all your friends and family by clicking on **Share** on the menu bar!

