N G V

DIGITAL CREATIVES: PIERRE BONNARD

WRITE THE CODE

INTRODUCTION

Now that you have seen the Breakfast with Bonnard game, we are going to have a look inside the game's code and build the script from the ground up.

Before you begin building the code, make sure you open Breakfast with Bonnard (Complete) project in Scratch and play the game few a few minutes, so that you understand what we will make in this project.
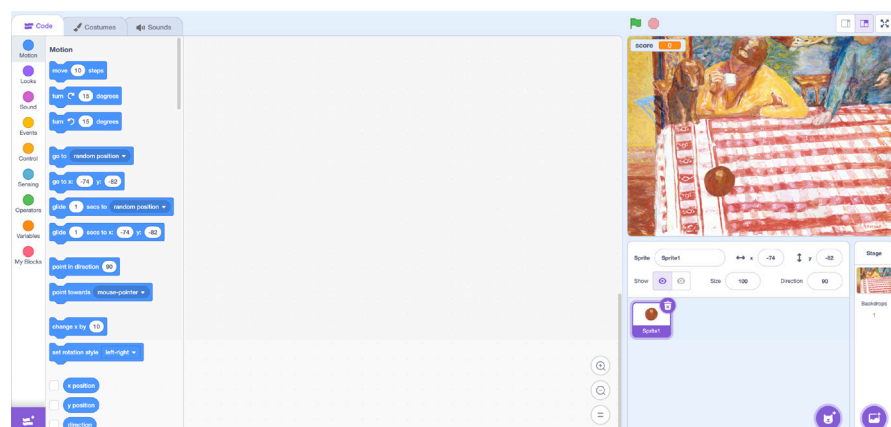
Key coding skills:

- Variables
- Scoring
- Costumes

STEP 1

Open the Bonnard's Table (incomplete) project in scratch. Let's take a look around! We can see there is an already existing sprite, labelled Sprite1, and a stage labelled backdrop.
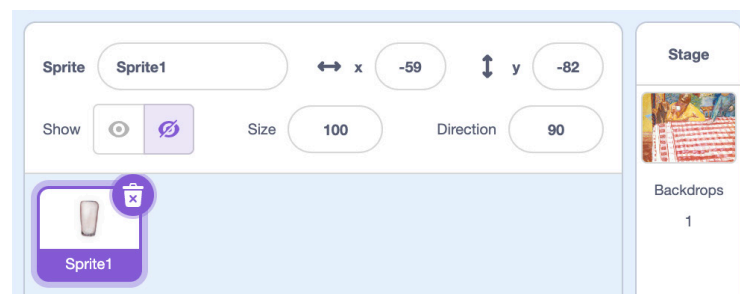
At the moment, there isn't any code in the script area, we'll be adding that in this workshop.

Click on the sprite, and navigate to the costumes tab. We can see there are several different costumes, some labelled food, and some labelled objects. These are the objects which will appear on our screen while playing the game!
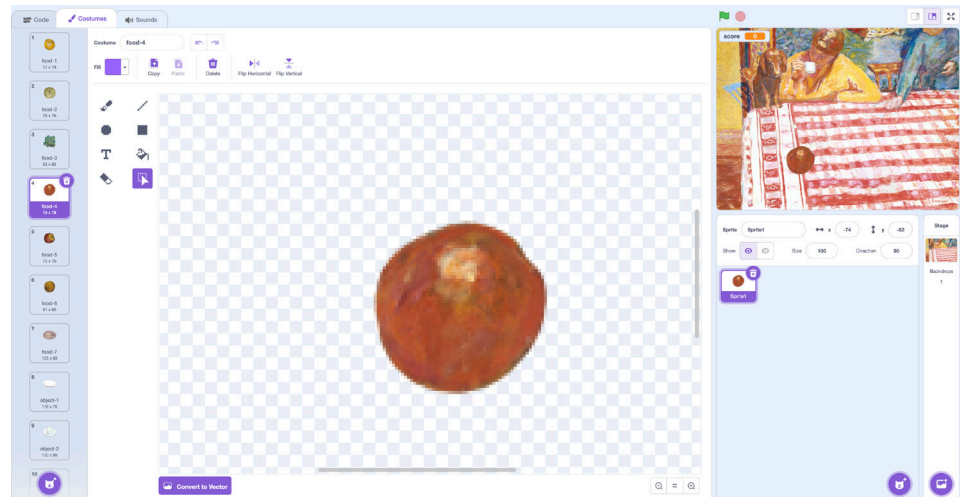

STEP 2

Let's begin the coding activity by navigating back to the **Code** tab. To start our game, we need to introduce an instruction to begin. Click on the *Events* button on the left-hand-side and drag the *When green-flag is clicked* block onto the script area.

Click on the **Variables** button and drag the *Set my variable to* block underneath the last block so they connect. Use the dropdown to change the words 'my variable' to *score*.
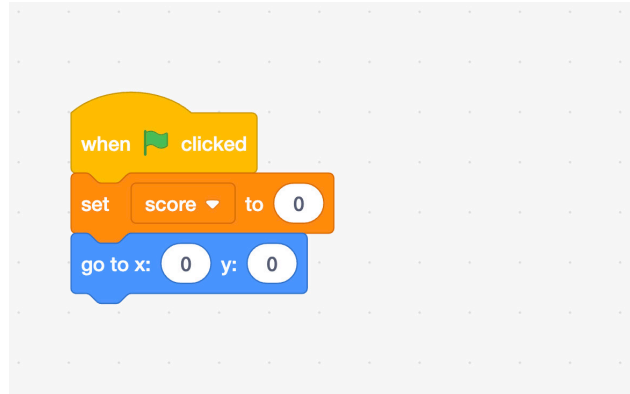
Adding this code means the game will reset each time we press the green flag.
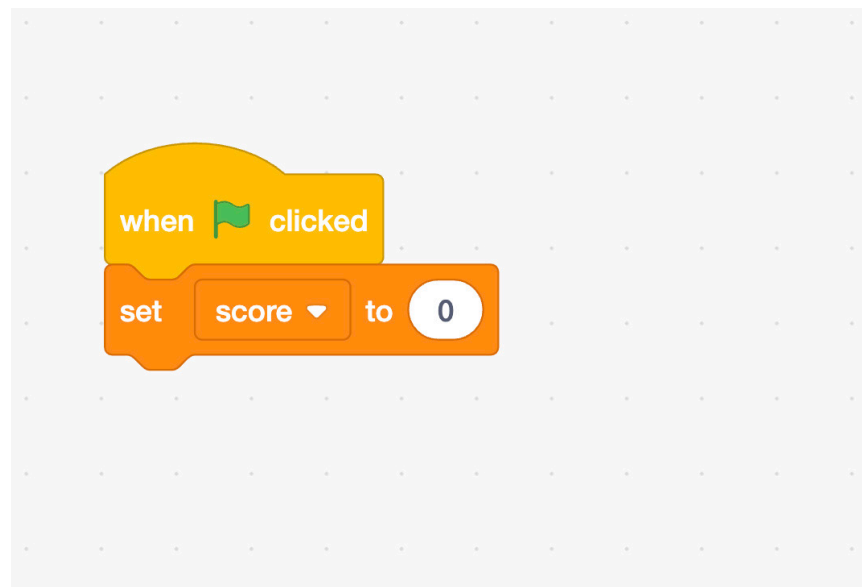
STEP 3

Click on the **Motion** button on the left-hand-side and drag the *Go to x–y* underneath the code block. Change both the numbers zero. This will centre our sprite on the stage.

Your script should look like this.

STEP 4

Now we'll create the loop which tells our sprite to change costumes and move randomly around the stage.

Click the **Control** button on the left-hand-side and drag the *Forever* block underneath the existing code block. Then, click the **Looks** button and drag the *Switch costume to* block inside the *Forever* block.

Click the **Operators** button on the left-hand-side and drag the *Pick random* block inside the previous block. Change the first value to *1* and the second value to *19*.

Adding this will allow our sprite to randomly change between all the costumes available to it. Your code should look like this.
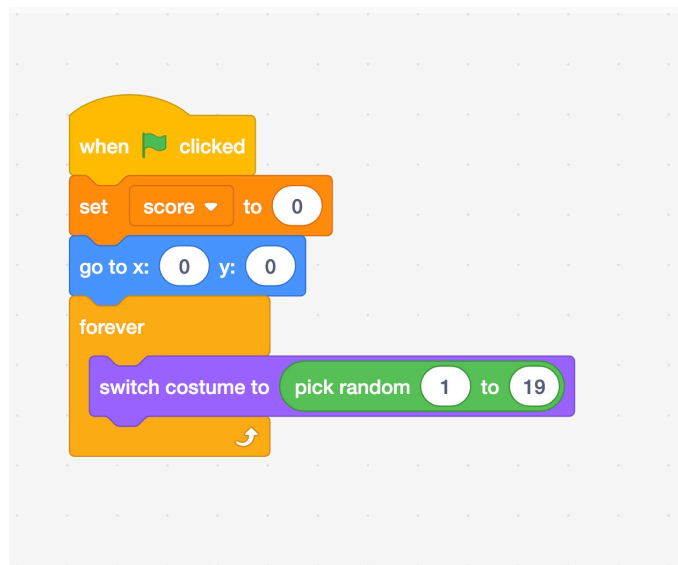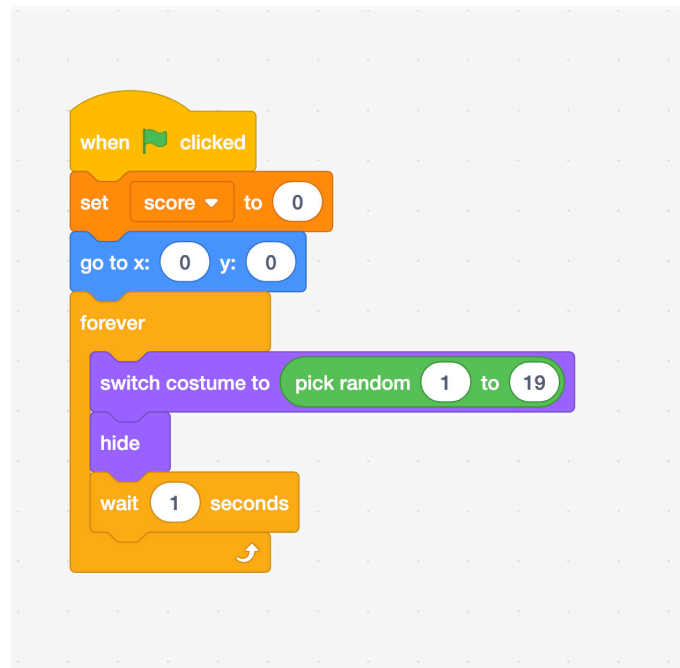
STEP 5

Click the **Looks** button and drag the *Hide* block directly underneath the previous block.

Click the *Control* button on the left-hand-side and drag the *Wait 1 second* block inside the *Forever* block, like we did previously.

This tells the program to hide the sprite after one second, allowing it to disappear from our stage.

STEP 6

Now that we have our sprite changing costume, we need to make it reappear somewhere new.

Click the **Motion** button on the left-hand-side and drag the *Go to x–y* Block underneath the previous block.

Click the *Operators* button on the left-hand-side and drag the *Pick Random* block into both the text-areas inside the *Go to* block. In the first text area, enter '**-150**' to '**200**', and in the second block enter '**-140**' to '**0**'. Your code should look like this.

This is telling the program where to make the sprite reappear. The number values are the dimensions of our stage, so the sprite will appear within our view area.
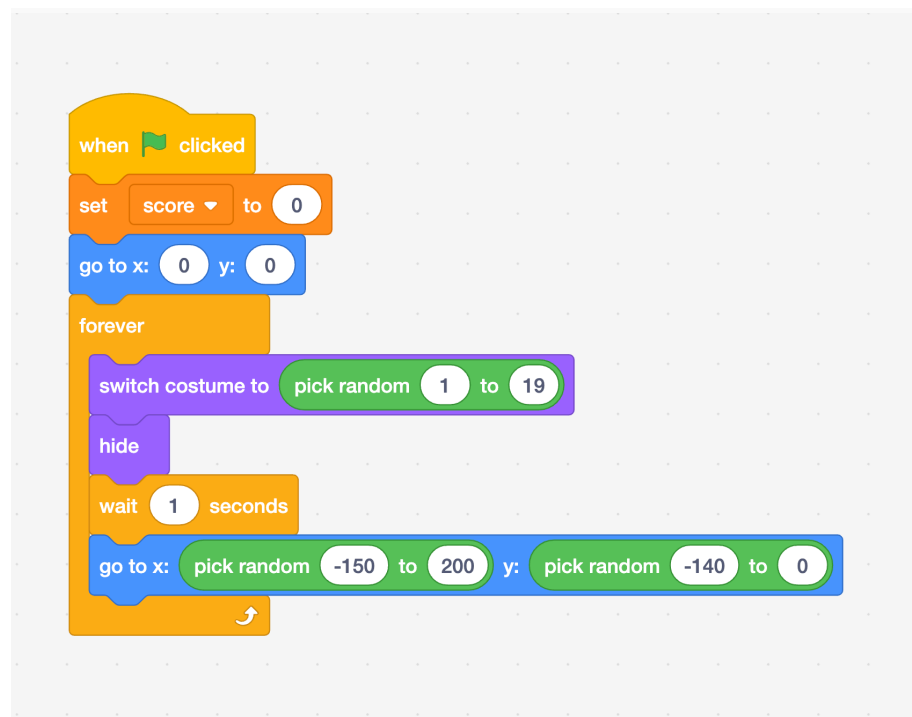
STEP 7

Now that we have made our sprite disappear and move around our stage. We want to tell the program to display the sprite again.

To do this, let's click on the **Looks** button, and drag the *show* block directly under the last block we just edited.

We want the sprite to stay visible on the screen for just a second, to make the game a bit challenging. Let's click on the **Control** button and drag the *wait 1 second* block directly below show. Your code should now look like this.
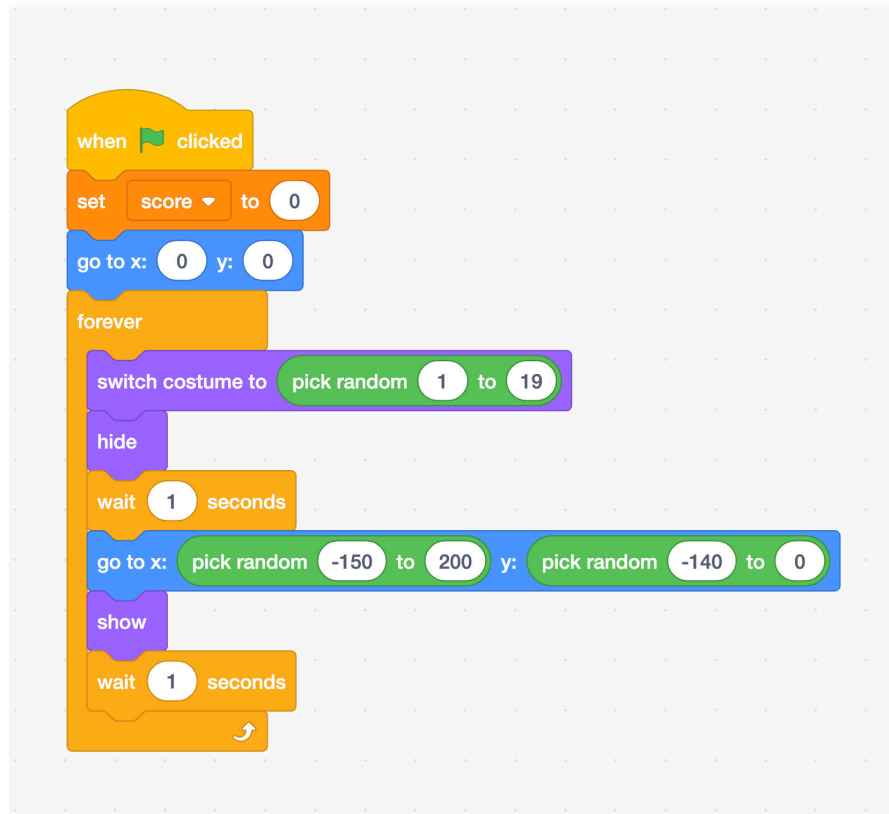
STEP 8

We've programmed our code to hide, move and then show our sprite, creating the effect of our sprite moving around the stage.

Now we need to program the part of the game which counts our score. Each time a food object is clicked, we want the score to increase by 1, and each time a non-food object is clicked, we want the score to decrease by 1.

We're going to create a new code block, by clicking on the **Events** button on the left-hand-side and dragging *When This Sprite Is Clicked* onto the script area.
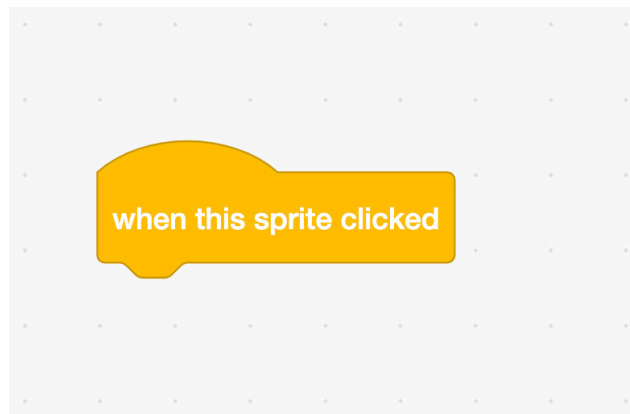
STEP 9

Click on the **Control** button and drag the *If...Then...Else* block underneath our Event block.

Click on the **Operators** button and drag the *Contains a ..?* block inside the *If...Then...Else* block. You'll see there are two text-areas we can fill within this block.
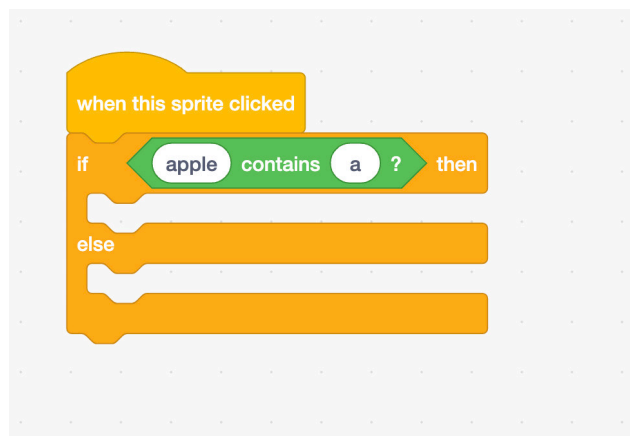
STEP 10

Click on the **Looks** button and drag the *Costume Name* block into the first text-area. Your code might be showing costume number, simply click on the code block and a drop down will appear to change the variable to *Name*.

In the second text-area, type in the word '**food**' with no capital letters or spaces.
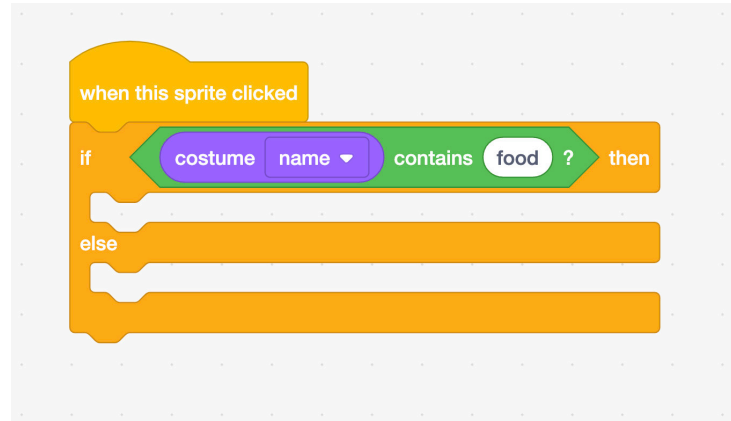

STEP 11

Click on **Variables** and drag the *Change* block inside the *If...Then...Else* code block into the first slot. Click on variable and change it to *Score* using the drop down. We want our score to increase by 1 when we click on a food-object, so let's input the number '**1**' in the text-area.

Let's repeat the previous step for the second slot in the *If...Then...Else* block and drag a *Change Score* block inside. If a non-food object is clicked, we want the score to decrease, so let's input '**-1**' into this text-area.

This code block might seem confusing, but it's actually quite simple. Our code is telling the program that if a sprite is clicked and it's wearing a costume with the word 'food' in its name, our score will increase by 1. If something else on the stage is clicked, then our score will decrease by 1.
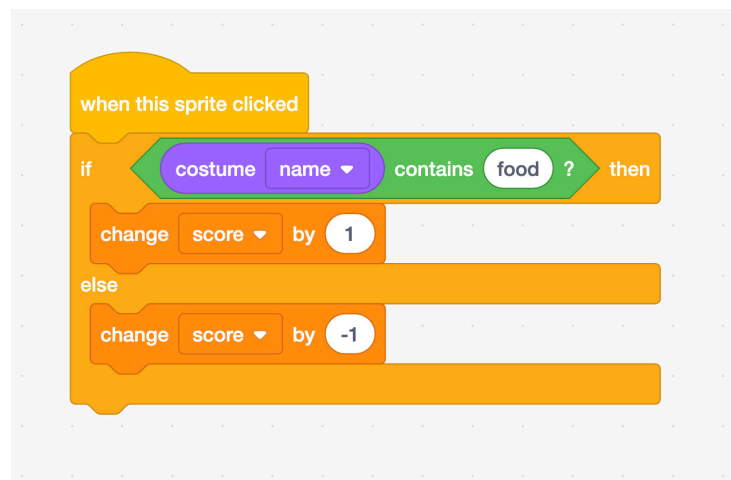
Congratulations, you've successfully coded this program from the ground-up!
If you haven't already, try following our video instructions on the NGV website
and add in your own drawings to the program.

```
when 🏳 clicked
set score ▾ to 0
go to x: 04 y: 0
forever
  switch costume to pick random 1 to 19
  hide
  wait 1 seconds
  go to x: pick random -150 to 200 y: pick random -140 to 0
  show
  wait 1 seconds
```

```
when this sprite clicked
if apple contains a ? then
  change score ▾ by 1
else
  change score ▾ by -1
```