

# Programming Fundamentals Lab



Lab # 02

Scratch (advanced)

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Course Code: CL1002

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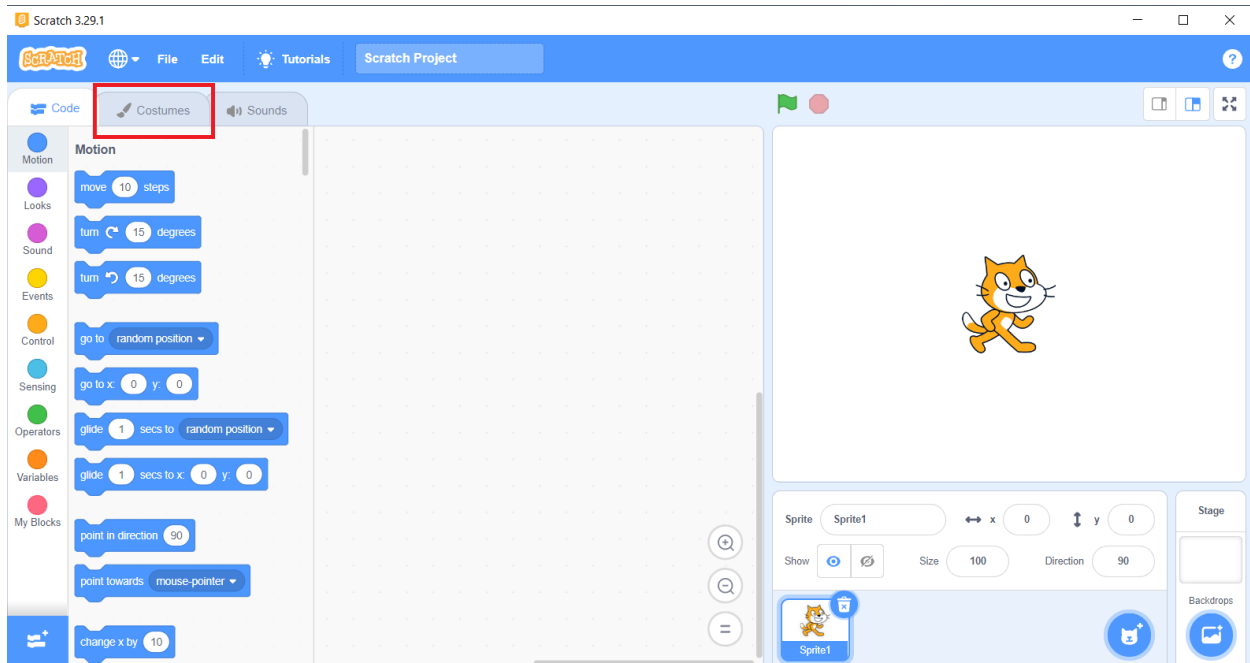
Department of Computer Science,  
National University of Computer and Emerging Sciences FAST  
Peshawar Campus

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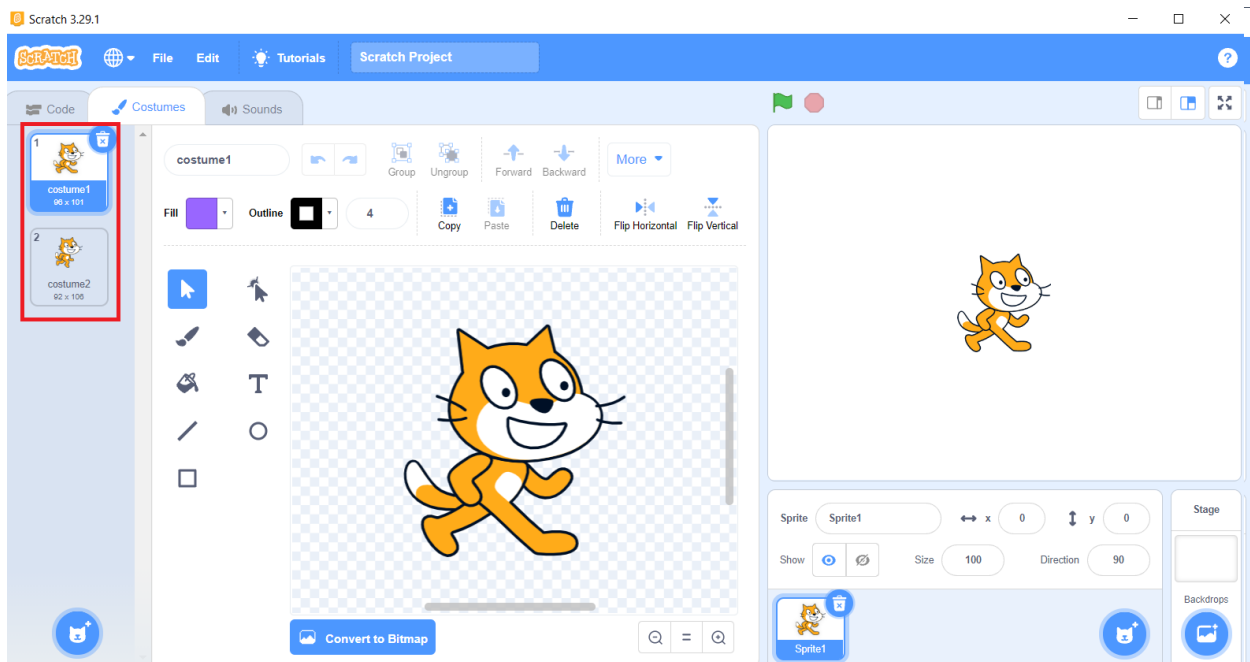
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## Animate a character in Scratch

You can see all the costumes (sprites) of a sprite by clicking on the **Costumes** button.



The cat has two costumes named **costume1** and **costume2**.



To animate the cat, you can use the **switch costume** block with **wait** to see the cat in animation.

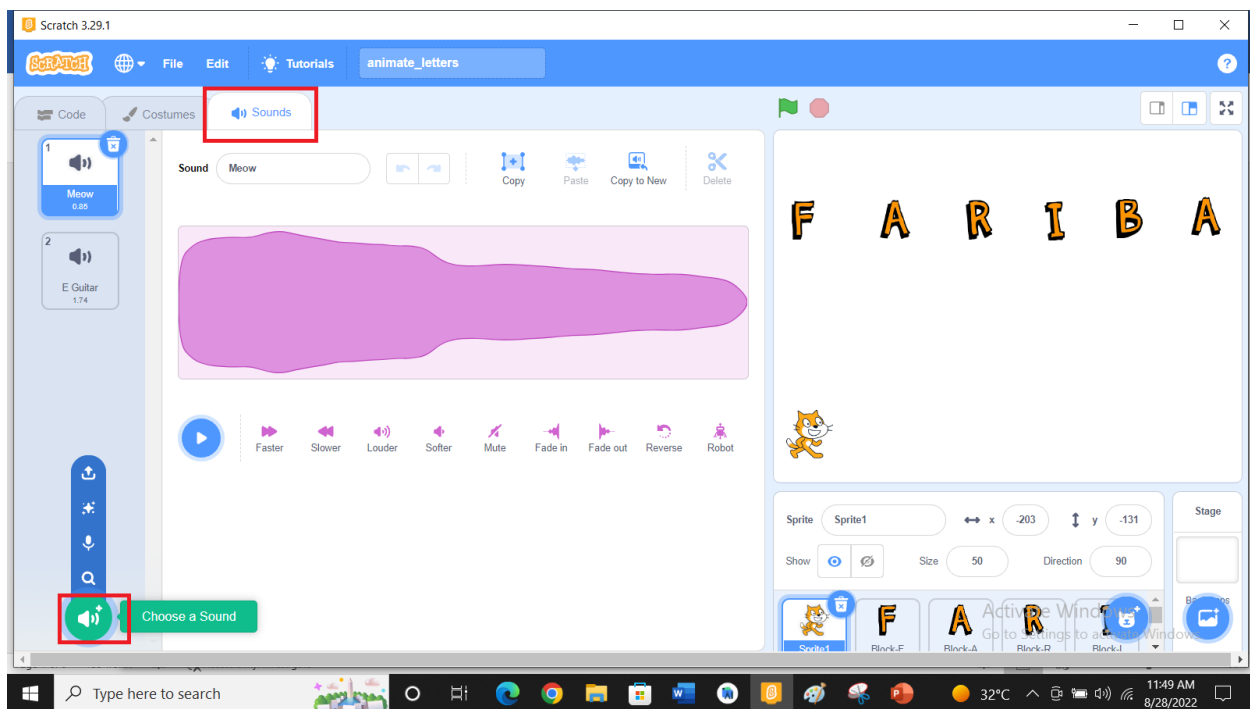
The following code blocks will animate the cat.

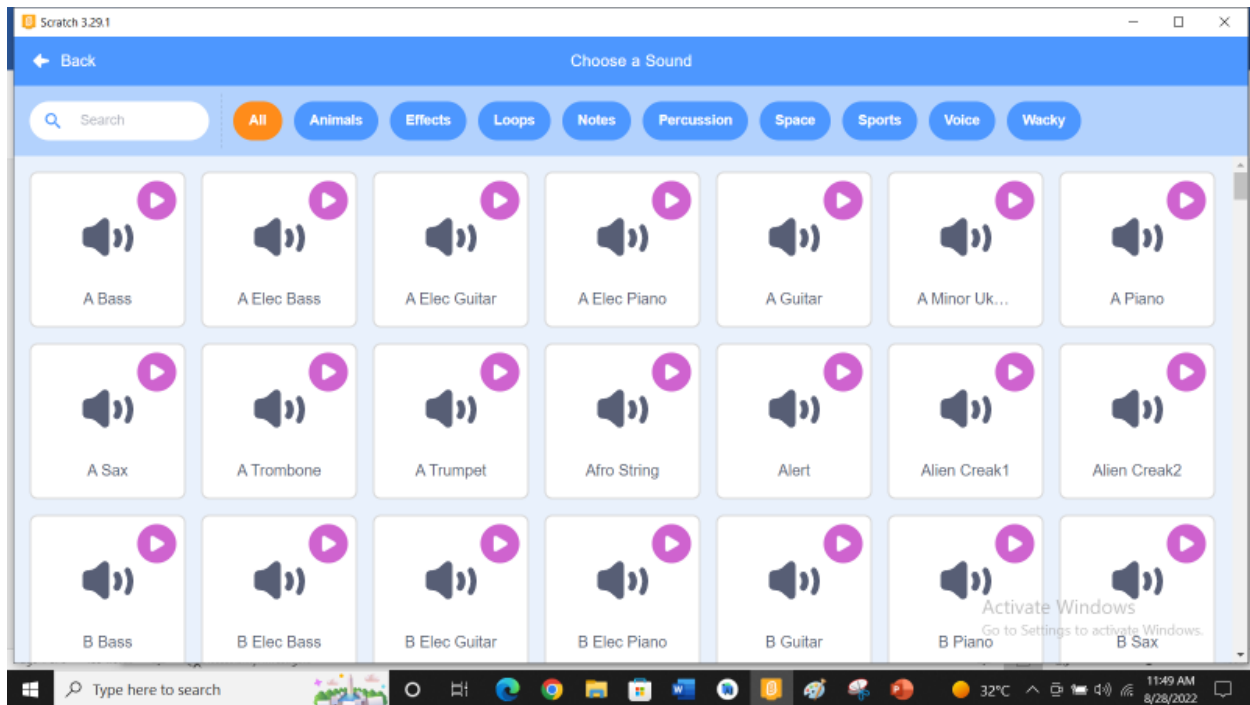


## Add Sounds

To add built-in or external sounds, you can click on the Sounds button.

On the bottom left corner, you can see the sounds icon. From there you can add the built-in or external sounds to your sprite.

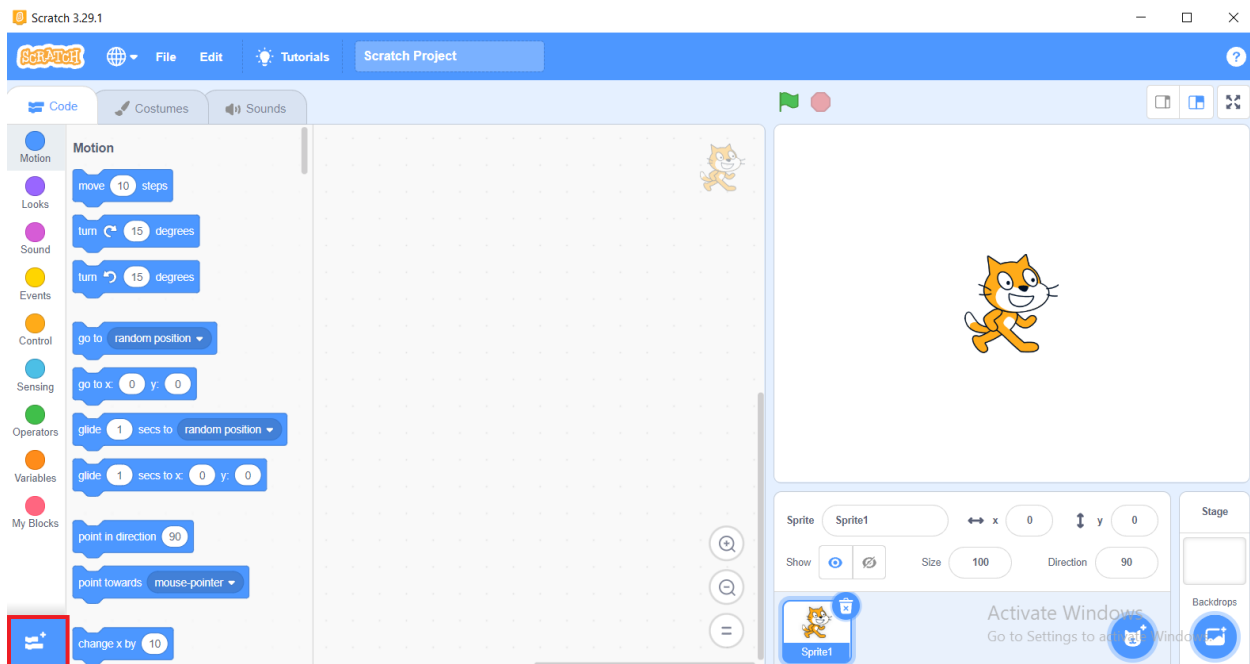




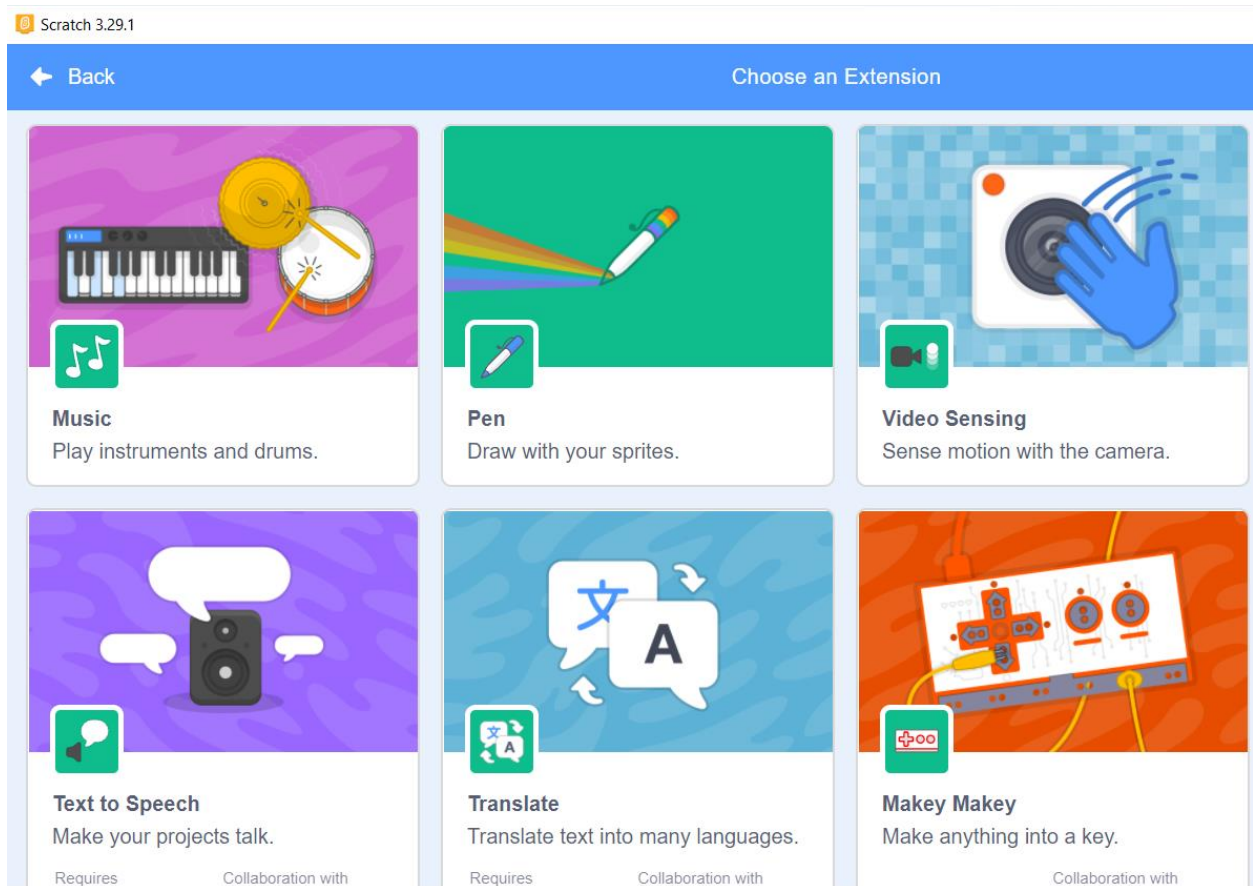
## Extensions

You can add extensions to use additional functionalities like music, pen, text to speech, translate, etc.

To add extensions, click on the **extensions** icon on the bottom left.

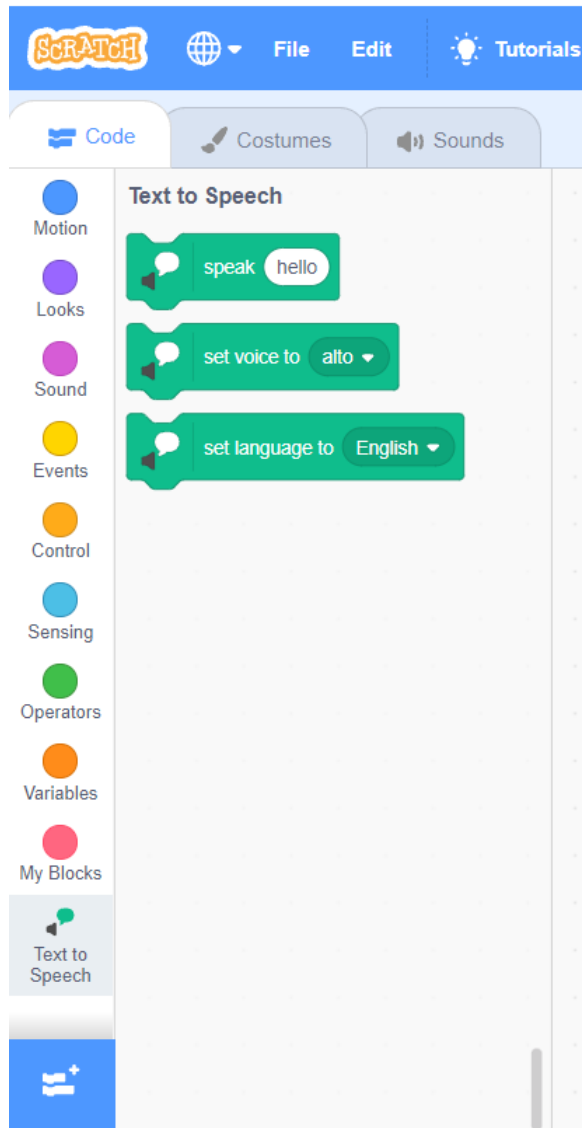


You can see all available extensions that we can add. Click on **Text to Speech**.



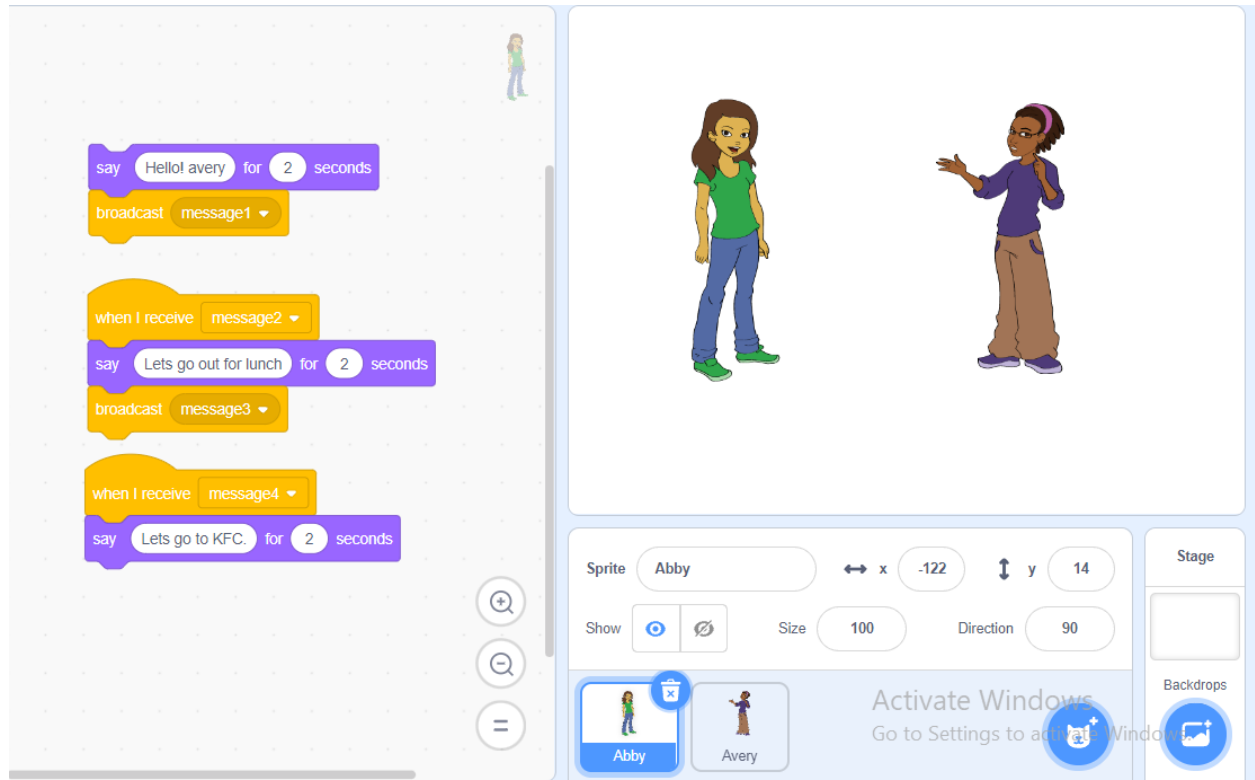
## Text to Speech

Scratch 3.29.1



## Create a Conversation between sprites

### Use Broadcast Message

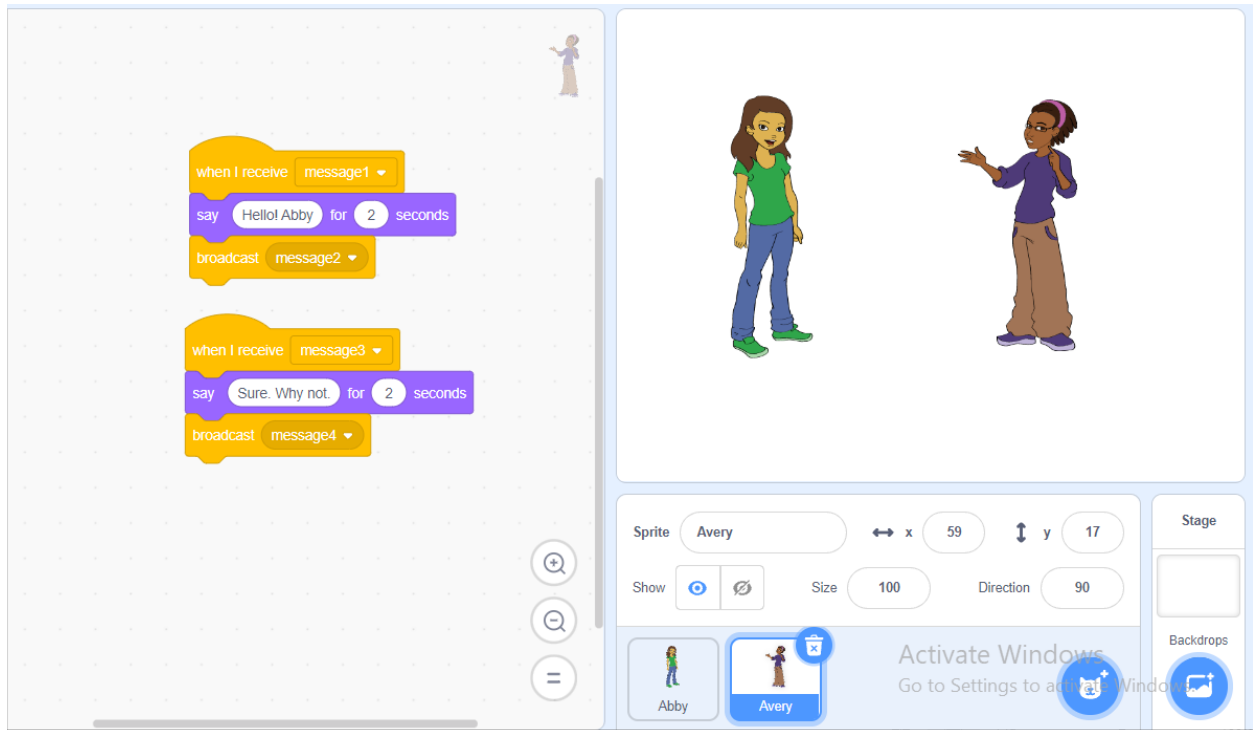


The image shows a Scratch project interface. On the left, a script for a sprite (Abby) is visible, consisting of three message blocks:

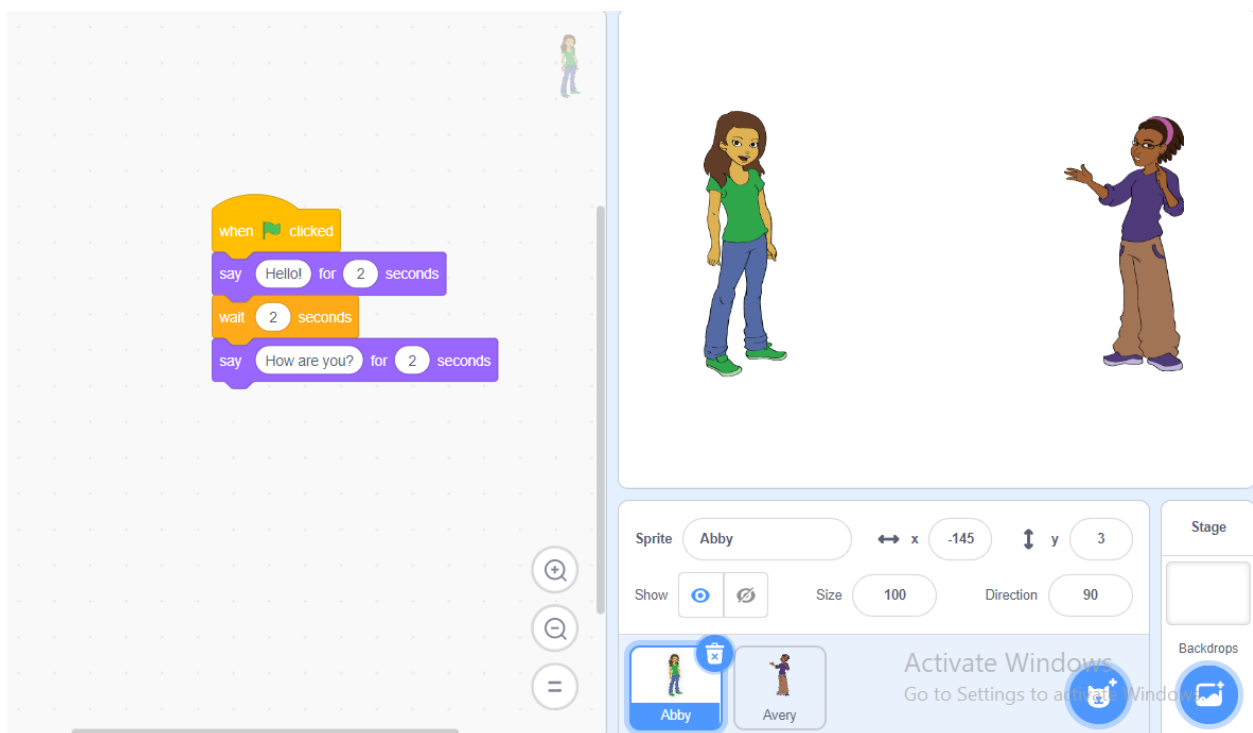
- say Hello! avery for 2 seconds** (purple block)
- broadcast message1** (yellow block)
- when I receive message2** (yellow block)
- say Lets go out for lunch for 2 seconds** (purple block)
- broadcast message3** (yellow block)
- when I receive message4** (yellow block)
- say Lets go to KFC. for 2 seconds** (purple block)

On the right, the stage shows two sprites: Abby (a girl in a green shirt and blue pants) and Avery (a girl in a purple shirt and brown pants). The stage is empty. The bottom right panel shows the 'Sprite' section with 'Abby' selected, and the 'Stage' section with 'Backdrops'.





## Use Wait



when clicked

wait 2 seconds

say Hello! for 2 seconds

wait 2 seconds

say fine and you? for 2 seconds

Avery

x 134 y 5

Show ☒ ☐

Size 100 Direction 90

Abby

Avery

Stage

Backdrops

Activate Windows  
Go to Settings to activate Windows.