



Scratch



CODERS CS TEAM





Module-2



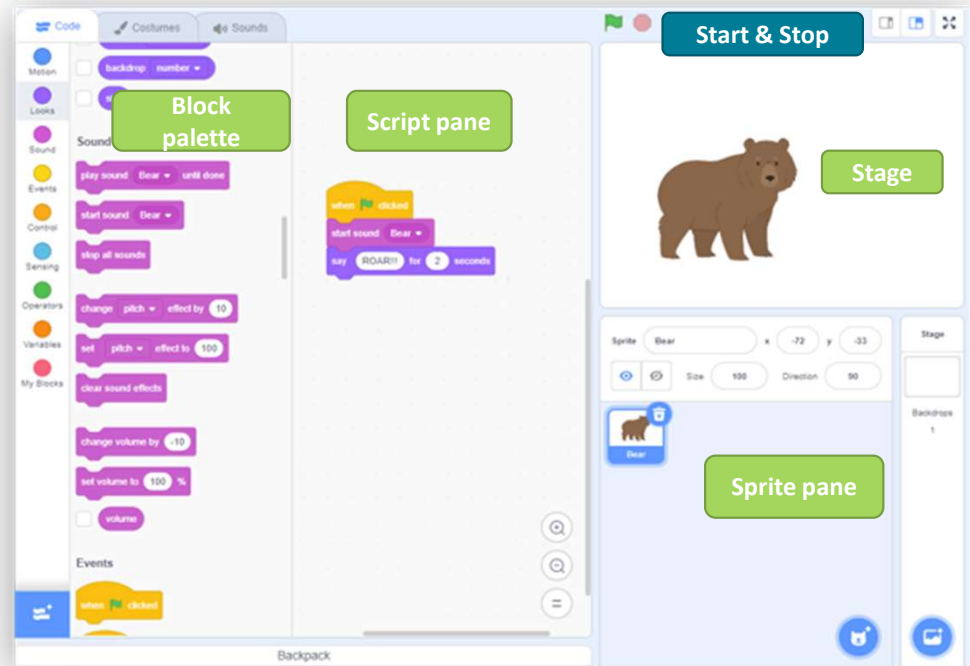
BLOCK CODING IN SCRATCH



Introduction

<https://scratch.mit.edu/>

1. Go to scratch online
2. Click Start Creating
3. Look at the online editor





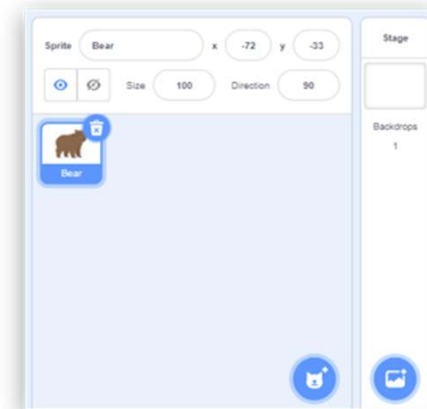
Stage and Sprite

Stage - The stage is the environment where sprites exist and interact.



Sprite - A sprite is an image that has its own code (script), costumes and sounds independent from all other sprites in the Scratch project.

All sprites in the Scratch project can be accessed in the sprite pane.

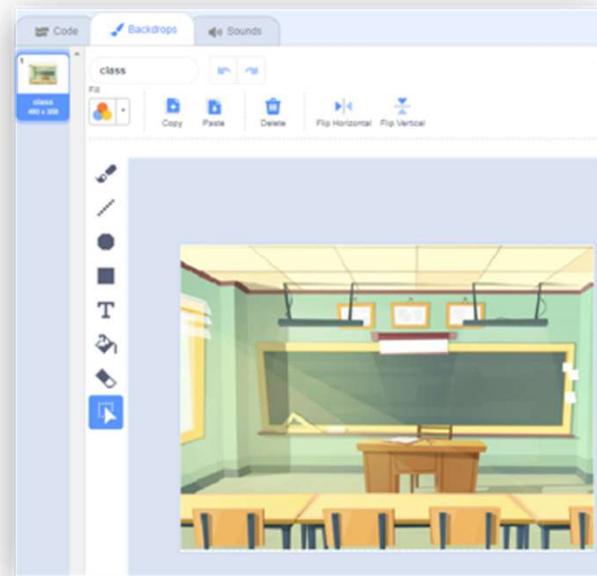
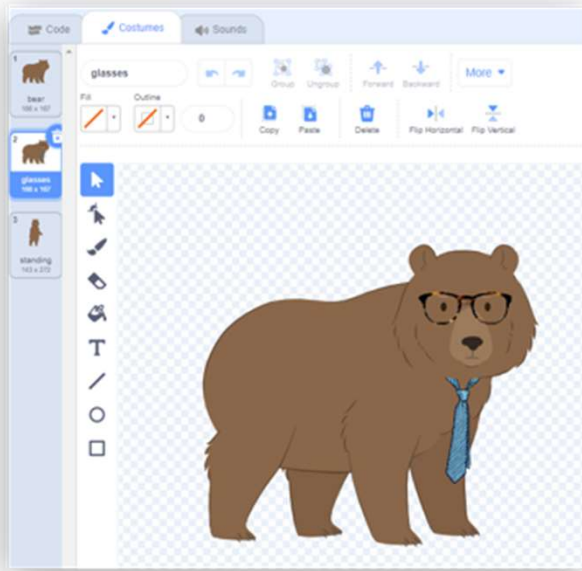




Costume and Backdrop

Costume - Costume editor for a sprite

Backdrop - Backdrops change the appearance of the stage

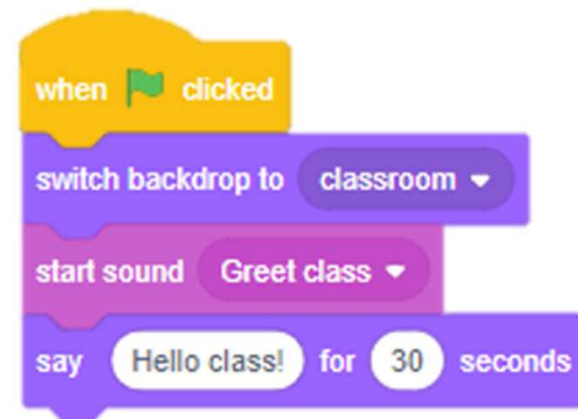


Blocks and Scripts

Blocks – Blocks are for choosing different actions

- Motion
- Looks
- Sound
- Events
- Control
- Sensing
- Operators
- Variables
- My Blocks

Scripts - Scripts are associated with each sprite.





Variables

Global Variable - "For all sprites" results in a variable accessible to all sprites.

Local Variable - "For this sprite only" results in a variable only visible to the sprite selected when creating the variable.

New Variable

New variable name:

For all sprites For this sprite only

Cancel OK



Activity-1: Animate Your Name

1. Go to <https://scratch.mit.edu/>
2. Click **create** to open the interface
3. Delete the default sprite by clicking the delete icon
4. Click Choose a Sprite Icon
5. Click the **Letters** tab
6. The list of available letters will be shown
7. Select the letters one by one

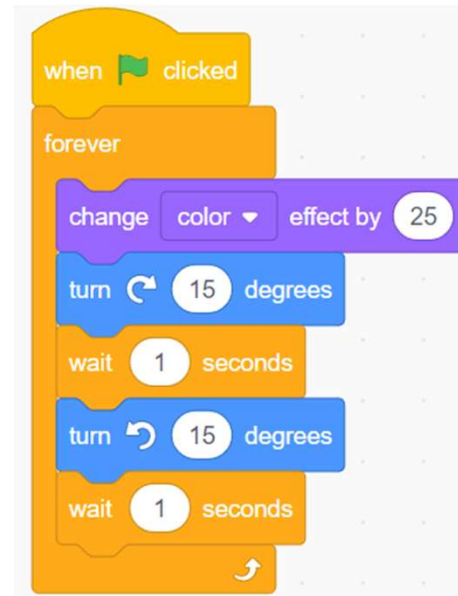
The screenshot shows the Scratch interface with the 'Choose a Sprite' dialog box open. The 'Letters' tab is selected, displaying a grid of letters from A to Z. A green arrow points to the 'Delete' button, and another green arrow points to the 'Choose a Sprite' button.

A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	A	B	C	D	E	F



Activity-1: Animate Your Name

1. Add all the letters of your name as sprites
2. Add a background
3. Change the color effects of each letter
4. Animate the letters by turning left and right
5. Keep repeating steps 3 and 4 forever





Activity-2: Underwater Cleaning

1. Choose an underwater backdrop
2. Add sea creatures
3. Add random objects that need to be cleaned
4. Choose your diver
5. Adjust the size, positions, and costumes of the sprites





Underwater Cleaning – The Diver

1. When the green flag is clicked:
 - a. Go to the initial position for the diver
 - b. Point it in a 90-degree direction
2. In a forever loop, control the diver with mouse





Underwater Cleaning – Objects Pickup

1. When the green flag is clicked:
 - a. Go to the initial position for each object
 - b. Point it in a 90-degree direction
 - c. Show the object
2. In a forever loop, check if the diver touches the object
 - a. Play your preferred sound
 - b. Hide the object

```
when green flag clicked
  show
  go to x: -19 y: -143
  point in direction 90
  forever loop
    if touching Diver2 ? then
      play sound Chomp until done
      hide
```



Underwater Cleaning – Add more features!

1. If the diver touches a creature, then it reacts accordingly.
2. Track the total cleaning time.
3. Track total dirty objects cleaned.





Thank You



ANY QUESTIONS?