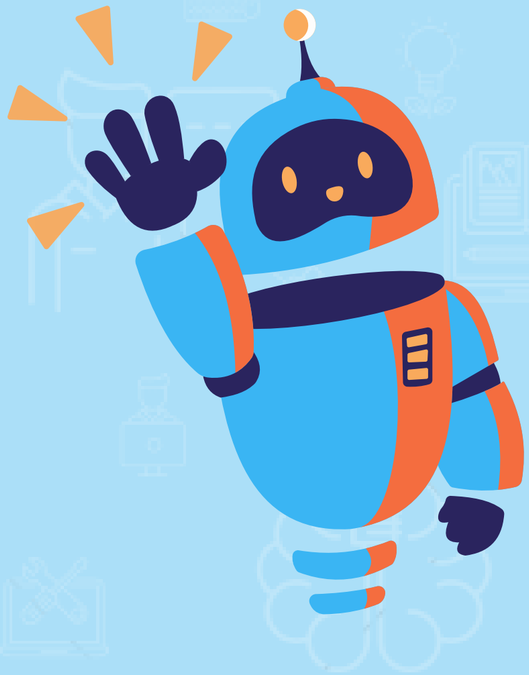
RSE ACADEMY
INVENTOR'S SOCIETY



Welcome to RSE ACADEMY

RSE ACADEMY
INVENTOR'S SOCIETY

Hi I'm Teacher Angel

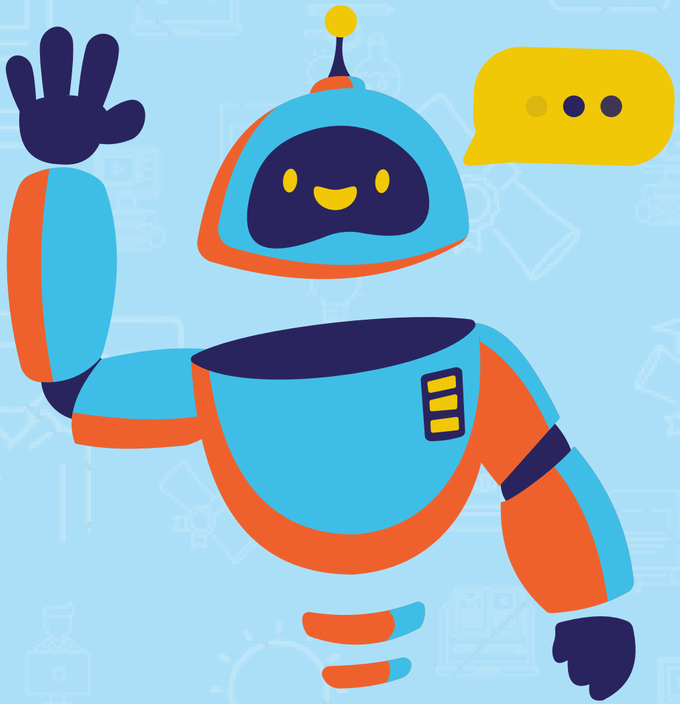
RSE ACADEMY
INVENTOR'S SOCIETY

Coding with Creaticode

CreatiCode

Simple Blocks, Cool Technology.

RSE ACADEMY
INVENTOR'S SOCIETY



"Introduce yourself"

Learning Objectives:

Students will be able to:

- Understand block-based programming
- Explore different block functions
- Familiarize with Creaticode
- Hands-On Learning
- Apply coding concepts

Lesson 1: Intro to Coding 3D Animation Blocks and Their Functions

RSE ACADEMY
INVENTOR'S SOCIETY

What is Block-Based Programming and 3D Animation ?

RSE ACADEMY
INVENTOR'S SOCIETY

Block-Based Programming

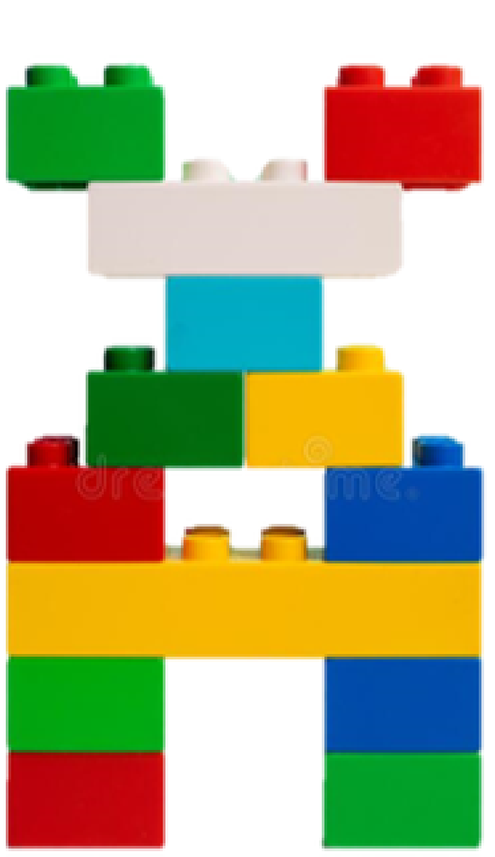
Imagine building things with virtual blocks on a computer. Instead of using words, you use special blocks with pictures to make exciting things happen, like making a character move or changing colors.

RSE ACADEMY
INVENTOR'S SOCIETY

CreatiCode Blocks

LEGO Blocks

CreatiCode Blocks make a Program.



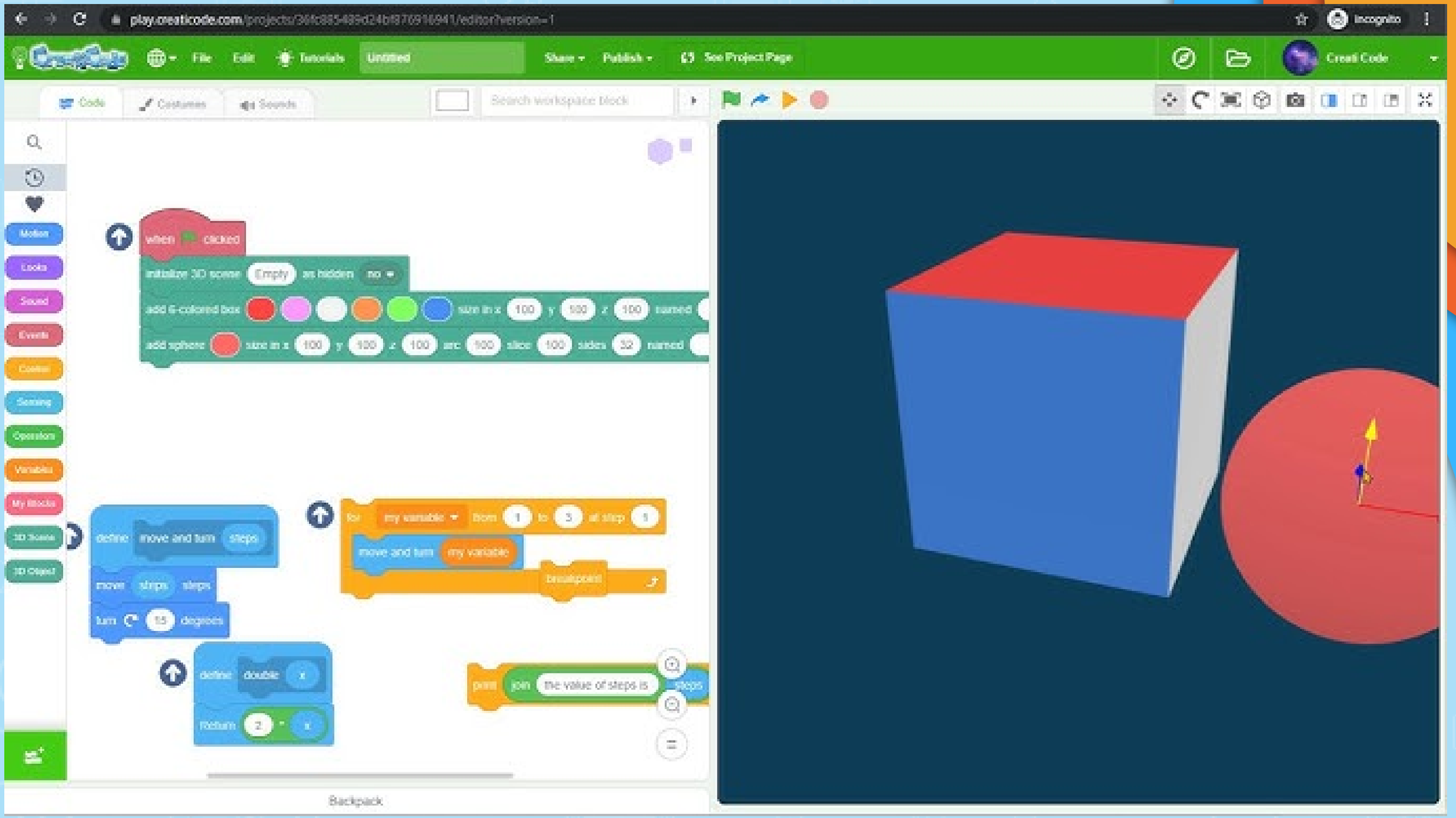
LEGO Blocks make a Building.

RSE ACADEMY
INVENTOR'S SOCIETY

Drag and Drop Learning

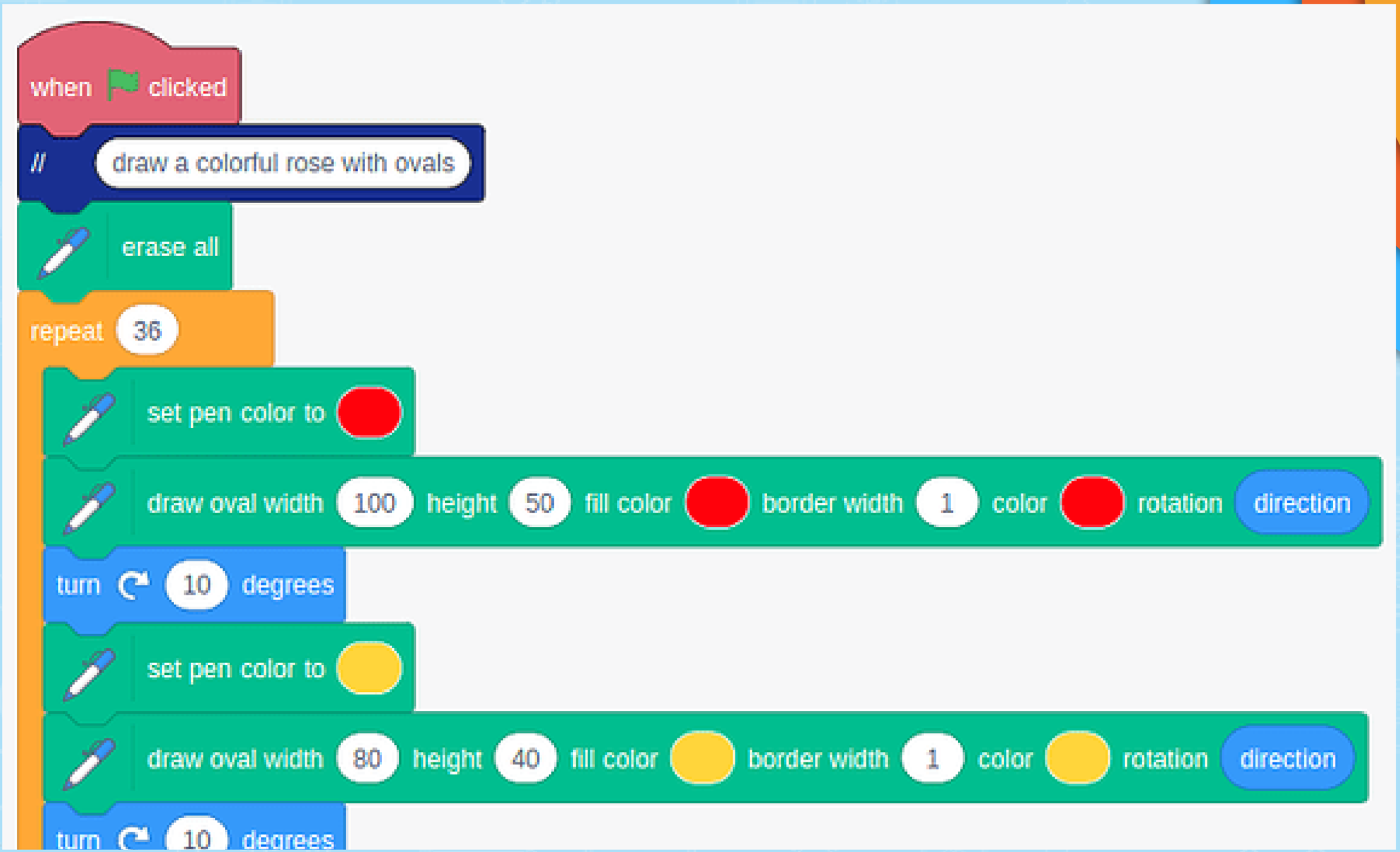
It's like playing with blocks on a computer. You use your mouse to pick up these special blocks and put them in the right order to make the computer do cool things.

RSE ACADEMY
INVENTOR'S SOCIETY



Block-based Coding

Using these special blocks to create your own stories and games on the computer, just like building with blocks but on a screen!


when clicked
// draw a colorful rose with ovals
erase all
repeat 36
set pen color to
draw oval width 100 height 50 fill color border width 1 color rotation direction
turn 10 degrees
set pen color to
draw oval width 80 height 40 fill color border width 1 color rotation direction
turn 10 degrees

RSE ACADEMY
INVENTOR'S SOCIETY

Blocks and Its Functions

Motion Blocks

They are used to control the sprite's movement. Motion blocks enable the students to move their sprite(or character) around the stage.

Looks Blocks

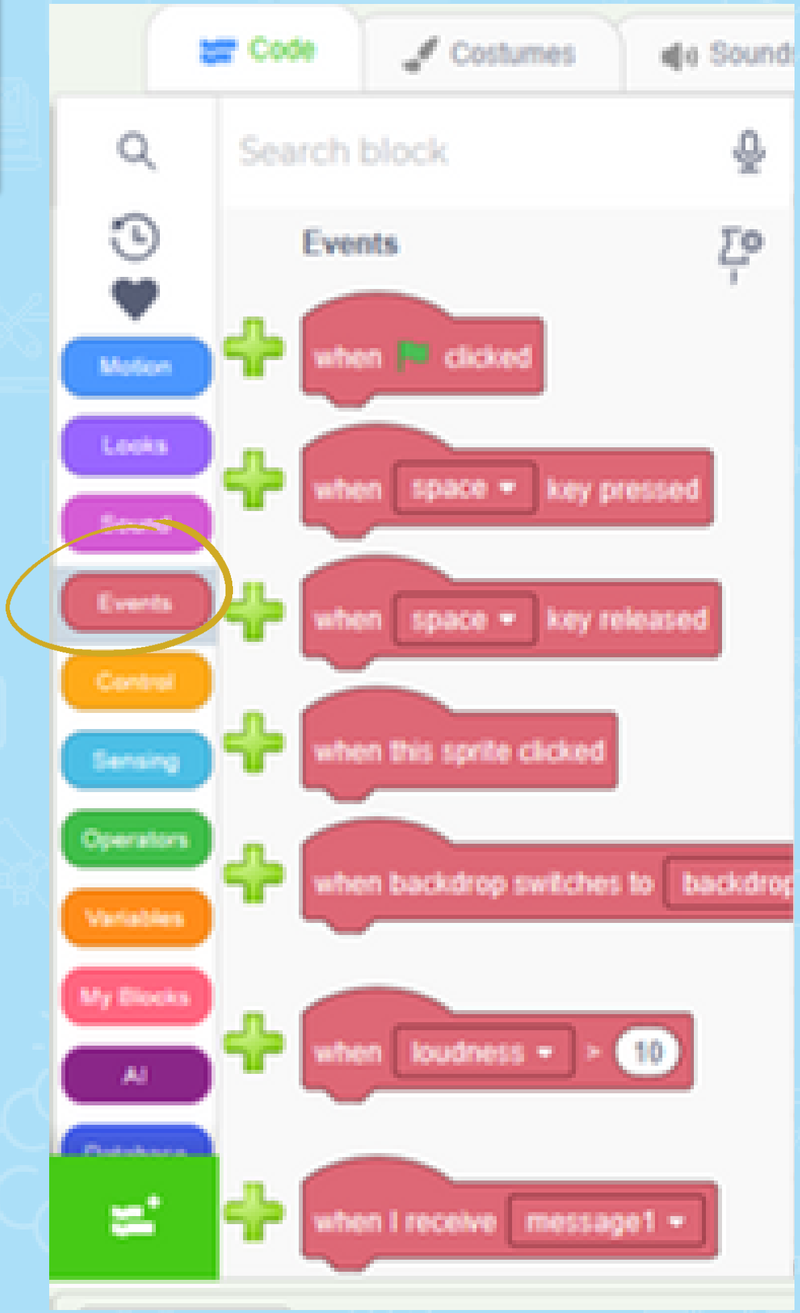
are blocks that allow you to edit the way your sprite looks. It can also change costumes for your sprite and make your sprite say something.

RSE ACADEMY
INVENTOR'S SOCIETY

Sound Blocks

are blocks of code that allow you to add sound to your programs. You can use sound blocks to play sound effects, music, and other audio in your programs.

RSE ACADEMY
INVENTOR'S SOCIETY



Events Blocks

are used to define the triggers when the script should run. All the other blocks will have no meaning till an event block is used to define when a script is to be run.

Control Blocks

used to control the movement of the sprite under certain conditions, which can be done by inserting conditional statements, loops, repeats, and causes.

RSE ACADEMY
INVENTOR'S SOCIETY

Sensing Blocks

are used to identify and measure how objects within a project are interacting with each other or to detect certain keyboard and mouse movements.

RSE ACADEMY
INVENTOR'S SOCIETY

3D SCENE BLOCK

used to initialize a 3d scene

RSE ACADEMY
INVENTOR'S SOCIETY

3D OBJECT BLOCK

used to add shapes or objects in the scene.

3D MODIFIER BLOCK

used to update textures and styles.

RSE ACADEMY
INVENTOR'S SOCIETY

3D ACTION BLOCK

used to rotate angle, set speed of the objects in the scene.

RSE ACADEMY
INVENTOR'S SOCIETY

3D EFFECT BLOCK

used to add trail diffusion or prebuilt emitter.

RSE ACADEMY
INVENTOR'S SOCIETY

3D PHYSICS BLOCK

used to enable or remove physics in the scene and update gravity.

RSE ACADEMY
INVENTOR'S SOCIETY

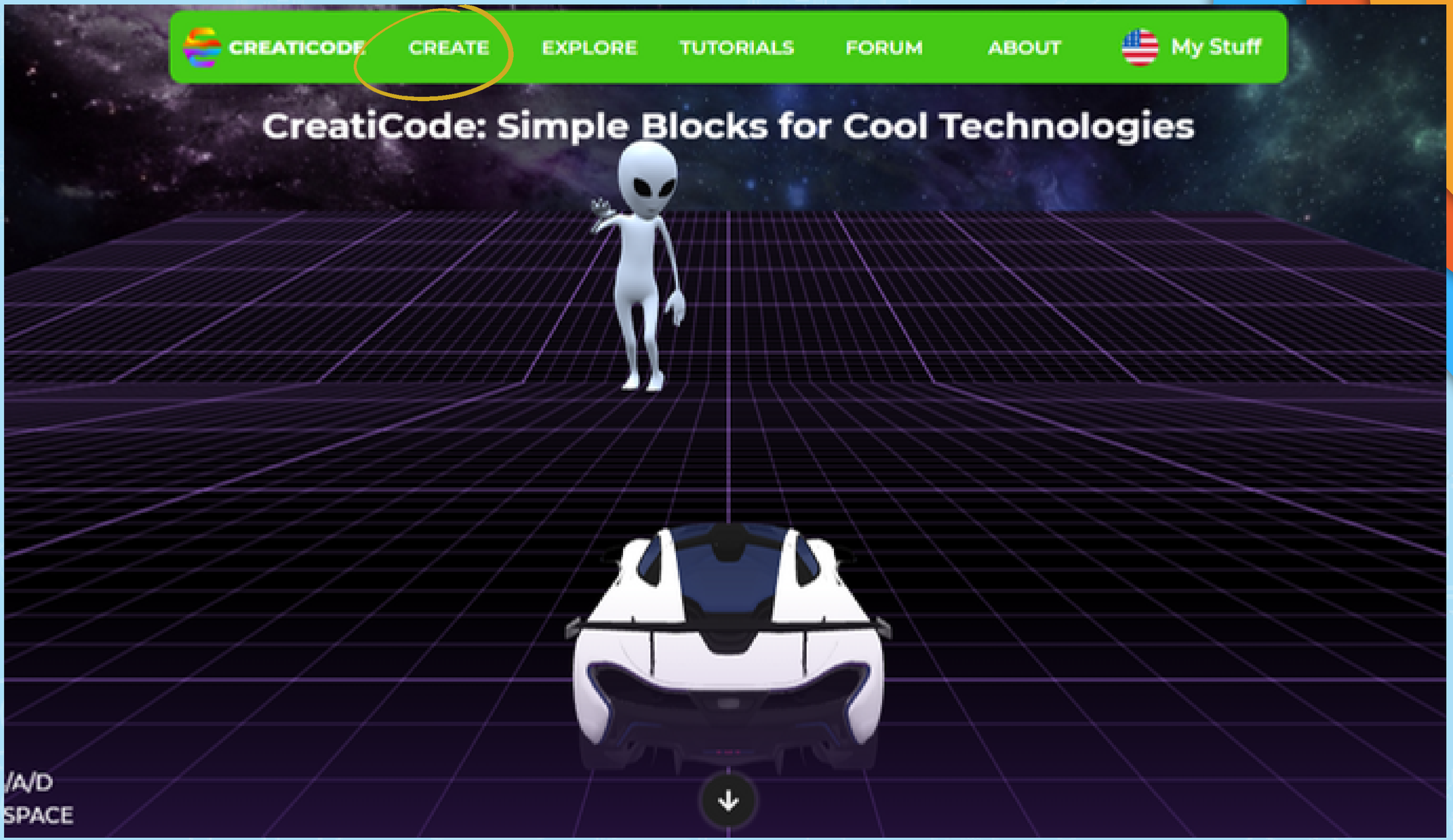
Time to explore Creaticode!

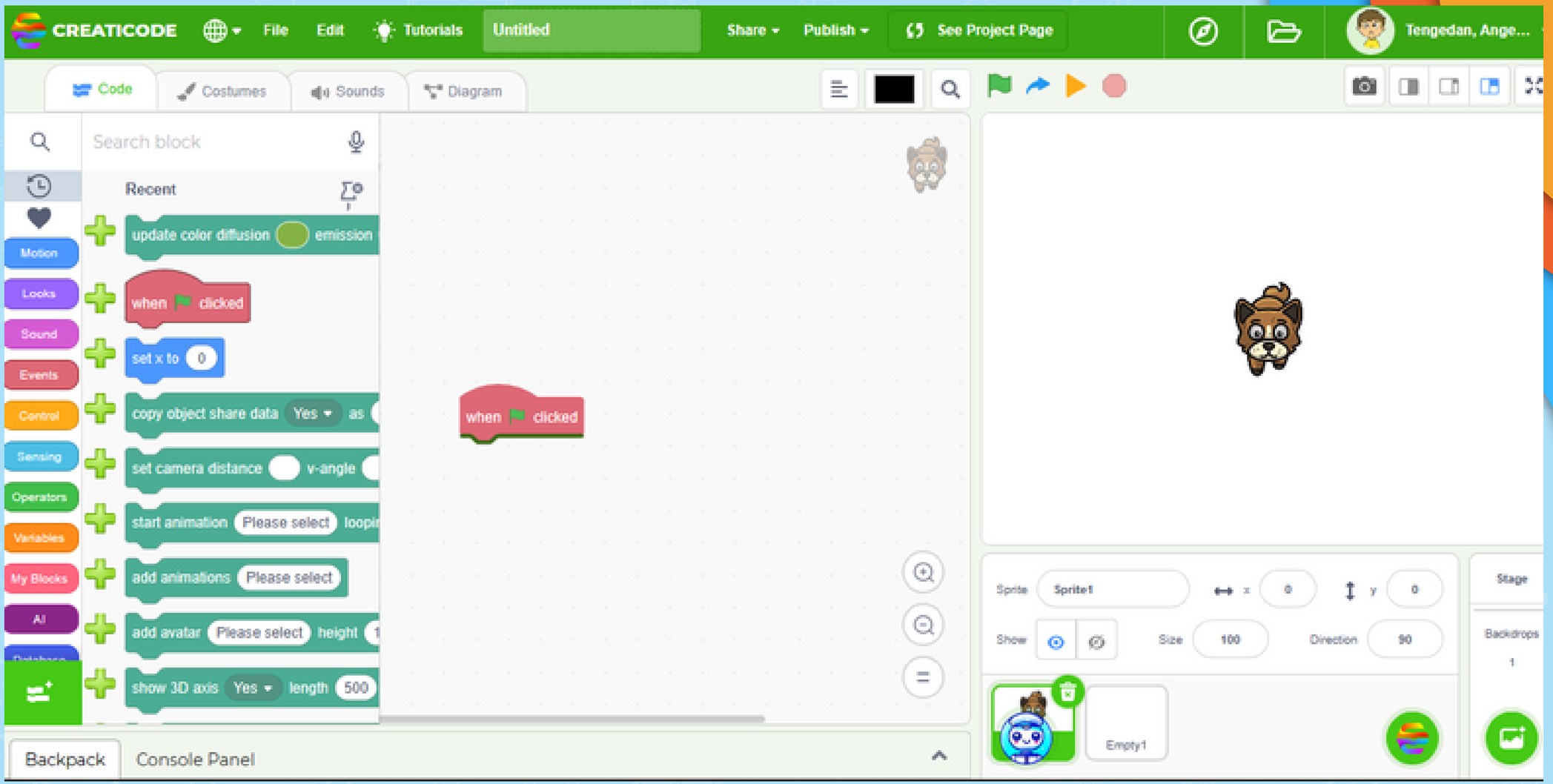
RSE ACADEMY
INVENTOR'S SOCIETY

CreatiCode

Simple Blocks, Cool Technology.

An online platform for K-12 students to build 3D/AI/AR projects using simple blocks. CreatiCode is based on the open-source block-based language. We have expanded it from a 'toy' language for young kids to a full-featured programming language for everyone, such as adding support for functions and tables.


CREATICODE
CREATE
EXPLORE
TUTORIALS
FORUM
ABOUT
My Stuff
CreatiCode: Simple Blocks for Cool Technologies
/A/D
SPACE


CREATICODE
File
Edit
Tutorials
Untitled
Share
Publish
See Project Page
Tengedan, Ange...
Code
Costumes
Sounds
Diagram
Search block
Recent
update color diffusion emission
when clicked
set x to 0
copy object share data Yes as
set camera distance v-angle
start animation Please select
add animations Please select
add avatar Please select height
show 3D axis Yes length 500
Motion
Looks
Sound
Events
Control
Sensing
Operators
Variables
My Blocks
AI
when clicked
Sprite
Sprite1
x 0
y 0
Show
Size 100
Direction 90
Stage
Backdrops 1
Empty1
Backpack
Console Panel

RSE ACADEMY
INVENTOR'S SOCIETY

Initializing 3D Scene and Adding 3D Object

Initializing 3D Scene

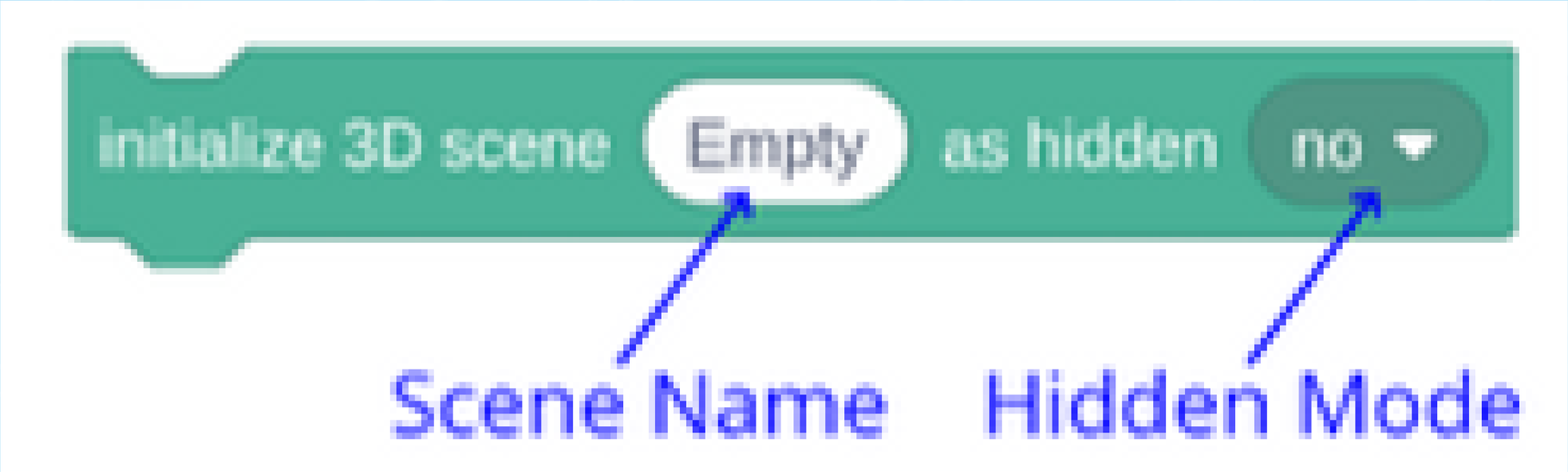
It is a pre-built 3D virtual world with some background, objects, lighting, and cameras, so you just need to add new objects/characters specific to your project into this world. For example, a “city” scene may contain buildings and roads.

Initializing 3D Scene

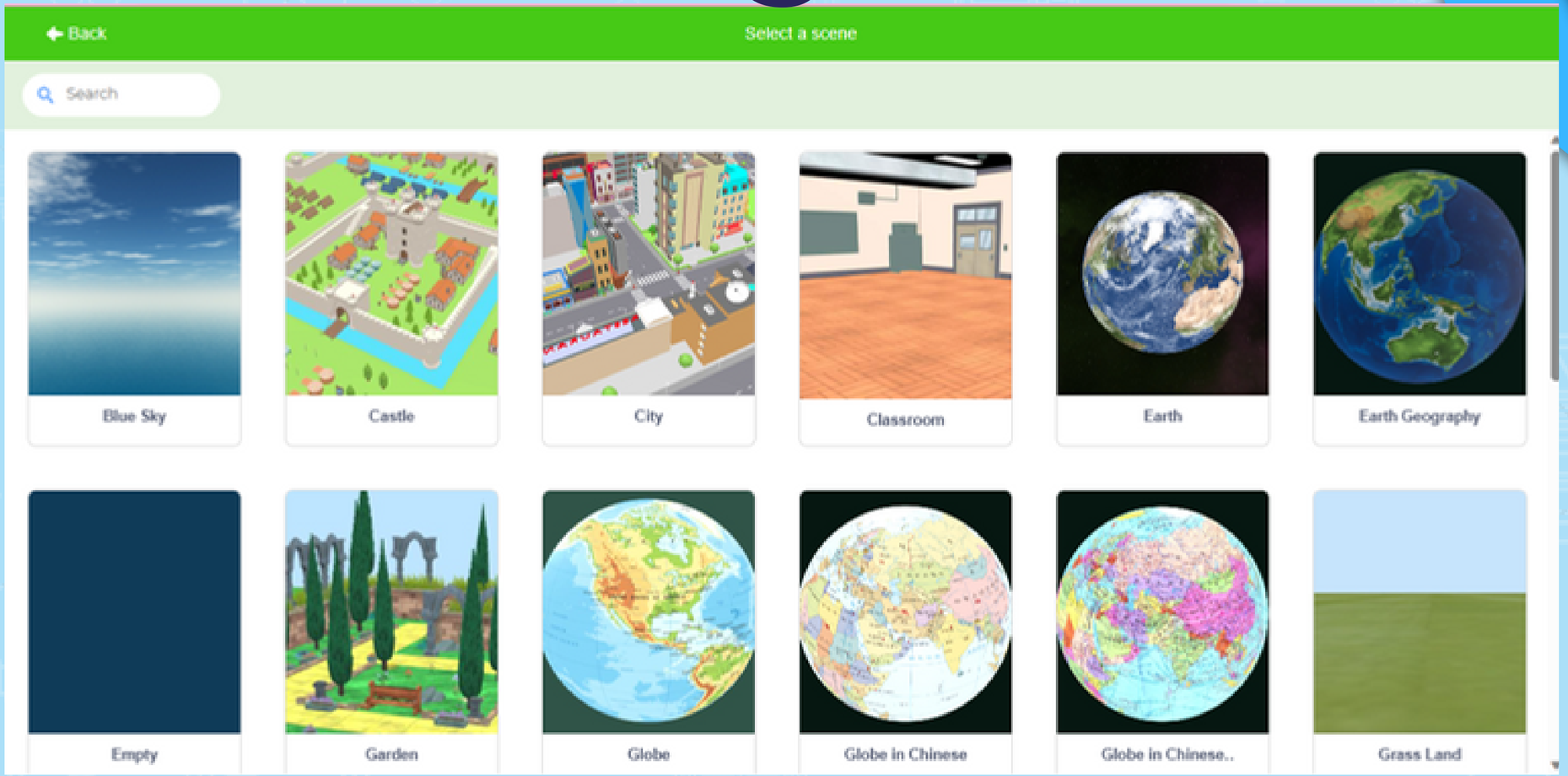
Step 1: Click the 3D Scene block and add the "initialize 3D scene" key block.

Initializing 3D Scene

Step 2: Choose the 3D scene you would like to initialize from the options provided.



Initializing 3D Scene

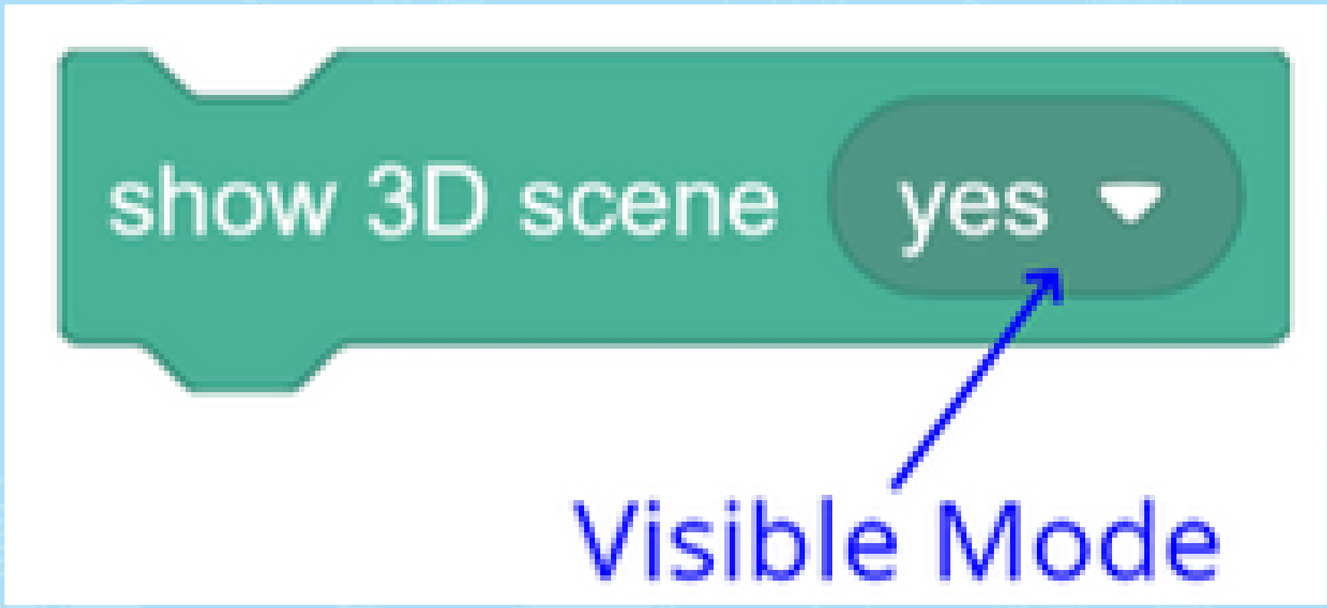


RSE ACADEMY
INVENTOR'S SOCIETY

Initializing 3D Scene

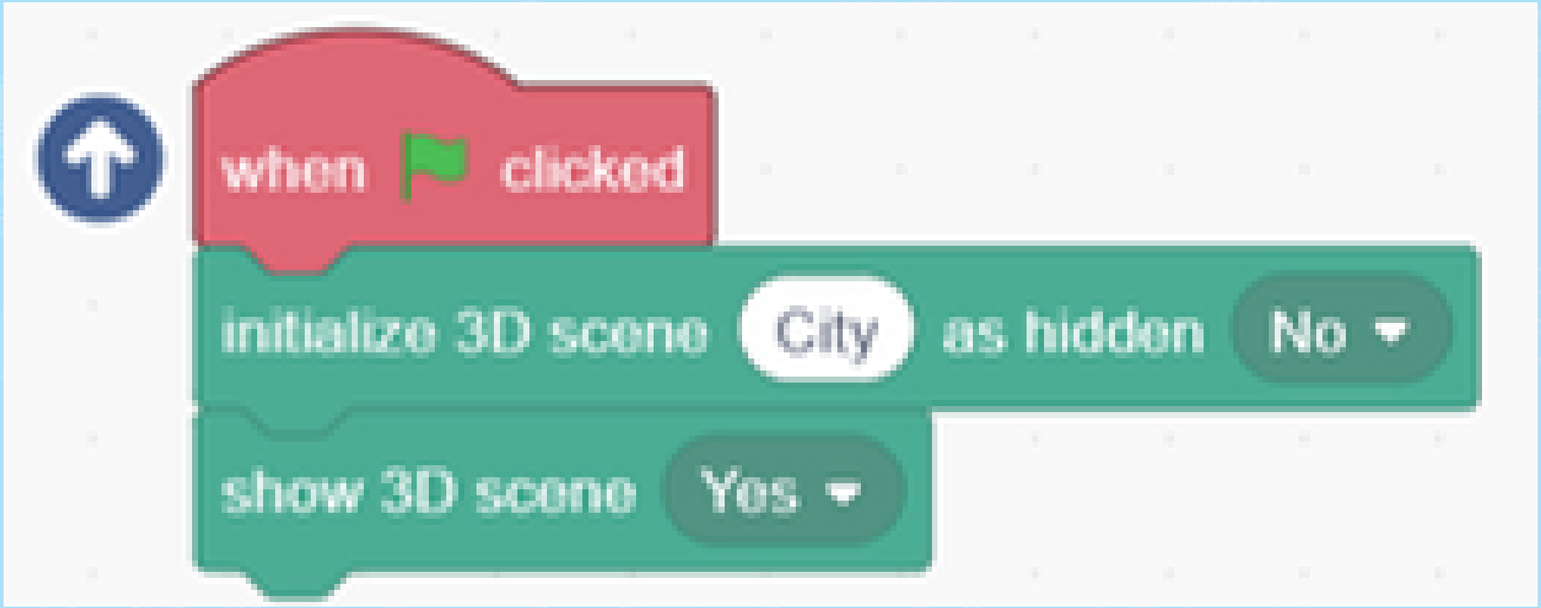
Initializing 3D Scene

Step 3: Click again the 3D Scene block and add the second key block "show 3D scene" and make it visible.



Initializing 3D Scene

Step 3: Your blocks should be arranged in this order to achieve the desired animation.



RSE ACADEMY
INVENTOR'S SOCIETY

Initializing 3D Scene

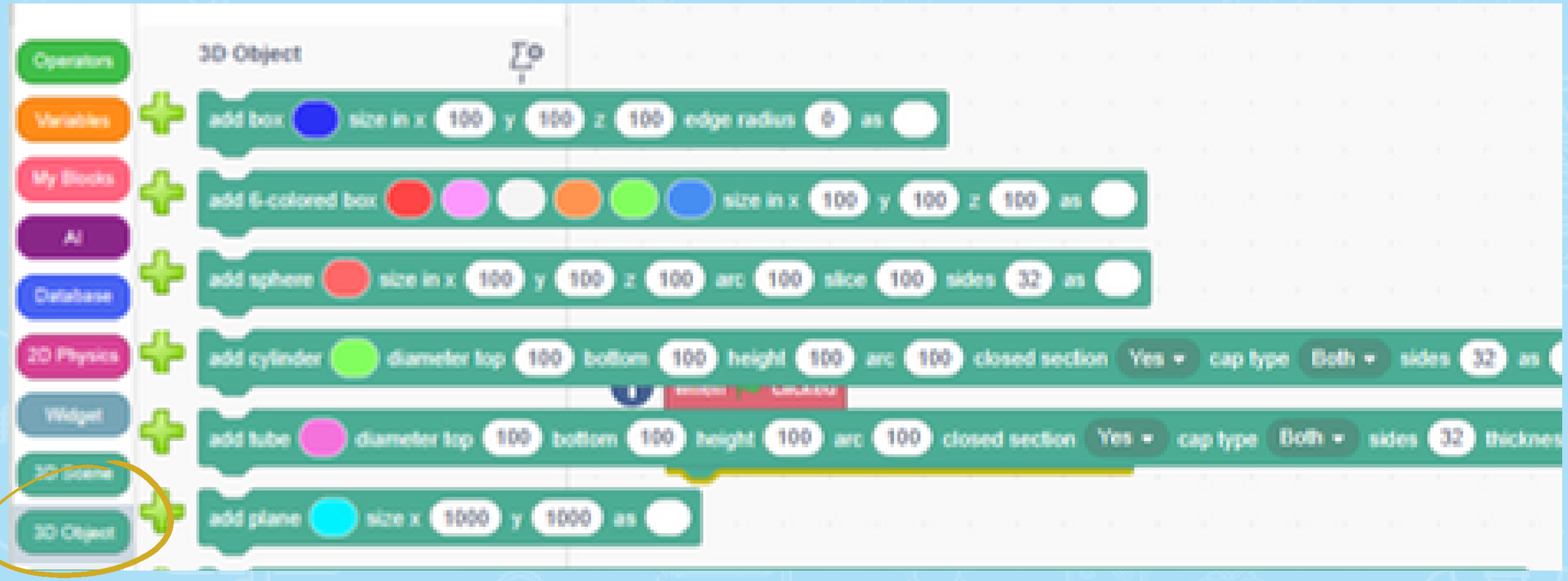
RSE ACADEMY
INVENTOR'S SOCIETY

Adding 3D Object

3D, or three dimensional, refers to the three spatial dimensions of width, height and depth. The physical world and everything that is observed in it are three dimensional.

Adding 3D Object

Step 1: Click the 3D Object block to add shapes you desired to be in your 3D scene.

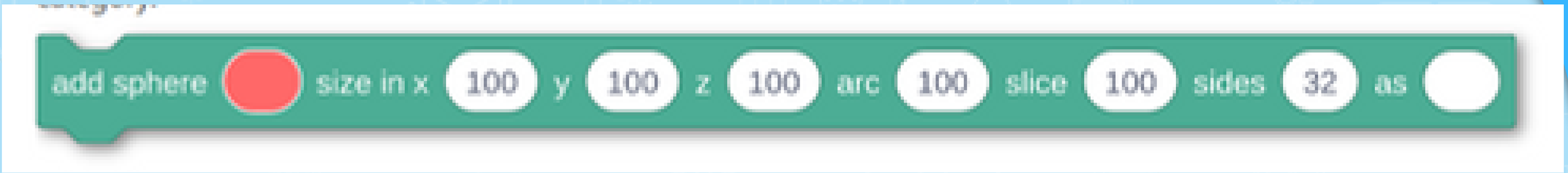


Adding 3D Object

Step 2: Add the key block of the object/shape that you prefer.

Adding 3D Object

Step 3: Edit the size of the object/shape that you have added.



RSE ACADEMY
INVENTOR'S SOCIETY

Adding 3D Object

Debrief

- What did you learn about Block-based Programming?
- How do you feel while exploring CreatiCode?
- Give at least one block and explain its function.

Summary

- Block-based Programming means that instead of typing a coding language, you drag and drop jigsaw-like pieces together to build things using tools like Scratch or Thunkable.

- Creaticode is an online platform for K-12 students to build 3D/AI/AR projects using simple blocks.

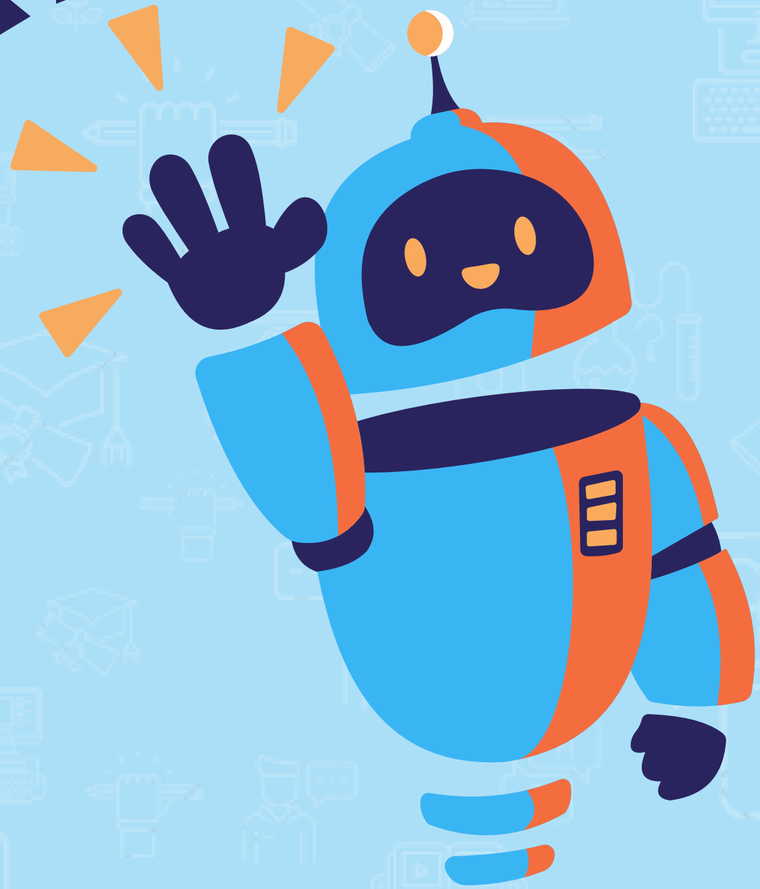
Summary

- CreatiCode is composed of the following blocks: *Motion Blocks, Looks Blocks, Sound Blocks, Events Blocks, Control Blocks, Sensing Blocks, 3D Scene, 3D Object, 3D Modifier, 3D Effects, 3D Action and 3D Physics.*

- Make sure to arrange the blocks in right order to achieve the deisred animation.

RSE ACADEMY
INVENTOR'S SOCIETY

Q & A AND FEEDBACK



Task Card

INTRODUCTION OF CREATICODE: BLOCKS AND ITS FUNCTIONS

Name of Task: **INITIALIZE 3D-SCENE AND ADD 3D OBJECT**
Date:

This week challenge

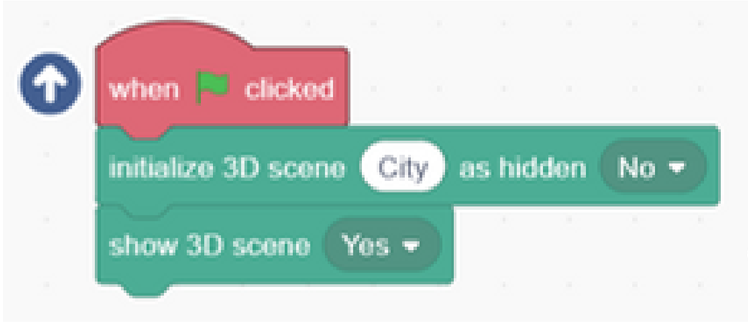
- 1. Open Creaticode on your computer.
- 2. Start a new project.
- 3. Find and use the blocks to set up a 3D scene. Use blocks that control the scene's background and lighting.
- 4. Add a 3D object to your scene using the appropriate blocks.
- 5. Arrange the blocks in the correct order to make the object appear and interact with the scene.
- 6. Test your animation to see how the object moves and behaves in the 3D scene.

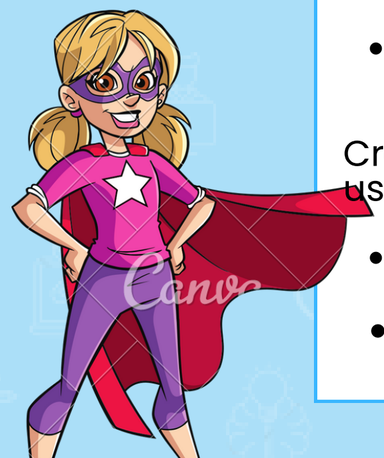
Create your first 3D animation scene and add a 3D object using the Creaticode platform.

- **Record a video while doing the challenge and share it with the group.**
- **Have Fun!**

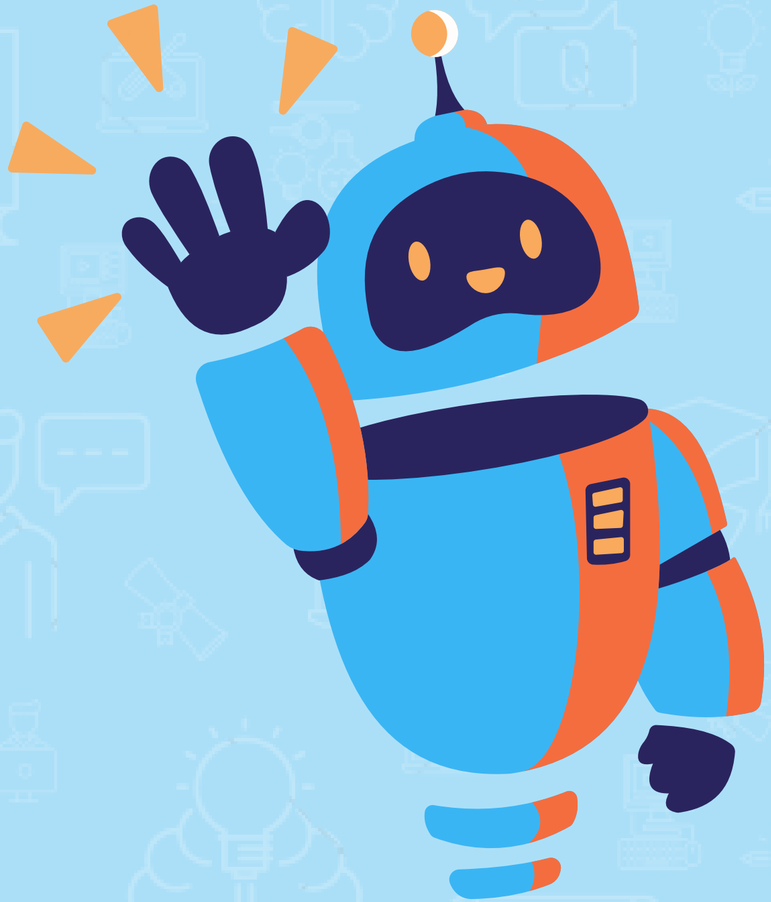
Sample Output

Learn - Create - Share





RSE ACADEMY
INVENTOR'S SOCIETY



Thank you and Happy Coding!