

# SCRATCH

60 Hours  
Sessions

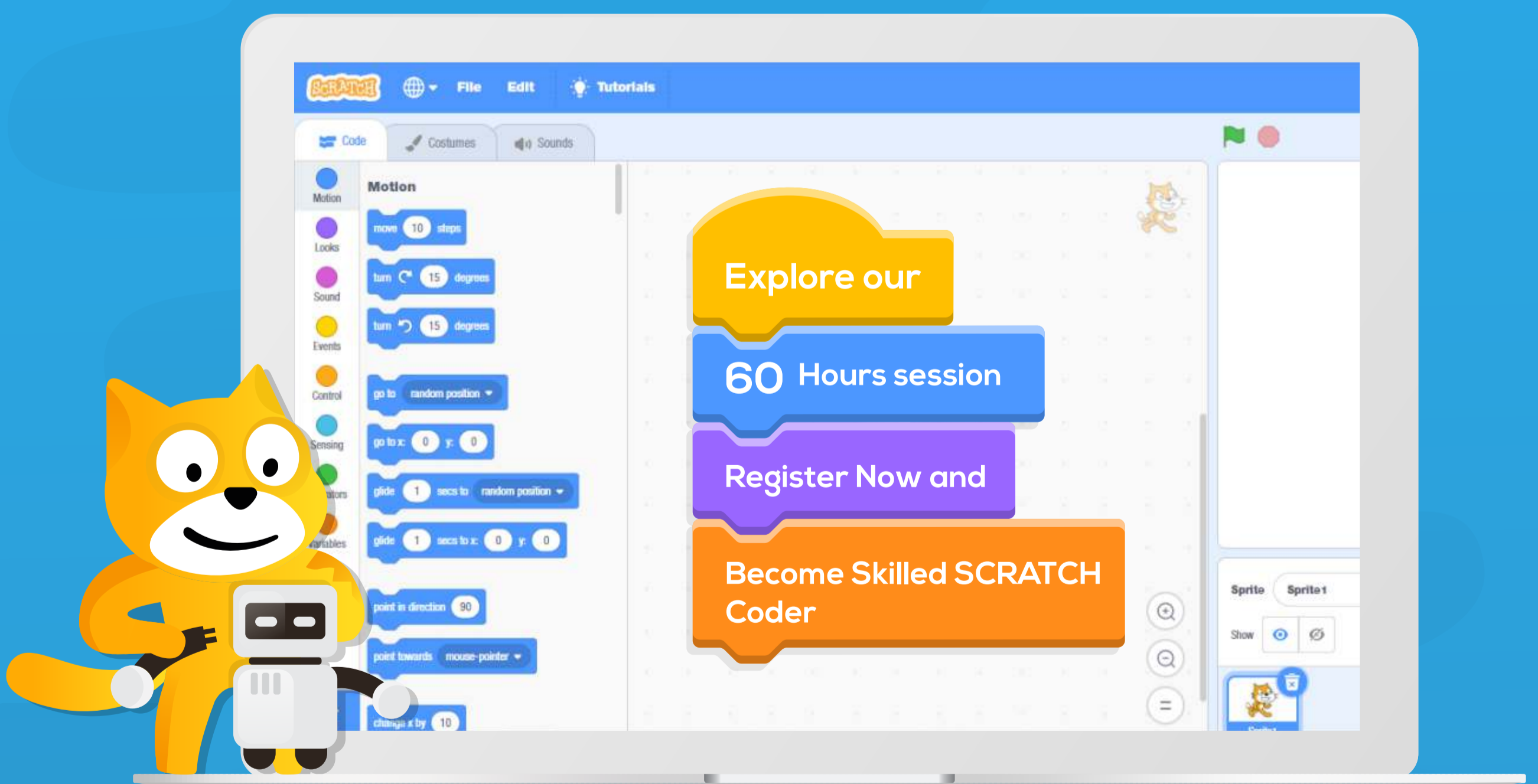
03 Levels to Mastery  
over Scratch

From Beginner to Expert

Is your child a newbie to the world of programming?

Our 60 hour course of Scratch will solve your worries!!

Unleash your child's creativity with visual programming language "SCRATCH" Child-friendly interface provides an easy and simple way of learning. With the increasing number of successful sessions your child will develop conceptual and computational skills by using simple yet powerful building block approach It makes your child think more creatively, logically and systematically.



Level 01 BEGINNER

# SCRATCH

YOUR FIRST STEP !!



Course Duration  
08 Hours



Session  
01 - 08



## Learning Outcome

- Understanding of Scratch
- Understanding of basic programming fundamentals
- Creation of interesting projects using Scratch
- Creation of animations and cool visual effects

Session

Curriculum

Outcome

01

Introduction to Scratch

- Awareness of block-based programming and Scratch
- Overview of Scratch interface
- Components of Scratch interface

02

Your First Scratch Program

- Adding Sprites
- Playing with Sprites
- Adding and changing costumes
- Starting and stopping project
- Saving project



03

## Backdrops

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- Adding backdrops
- Fun with backdrops

04

## Animating a Sprite

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- Working with multiple Sprites
- Fun with your name
- Making the cat run and glide
- Random positioning
- Cat playing with mice

05

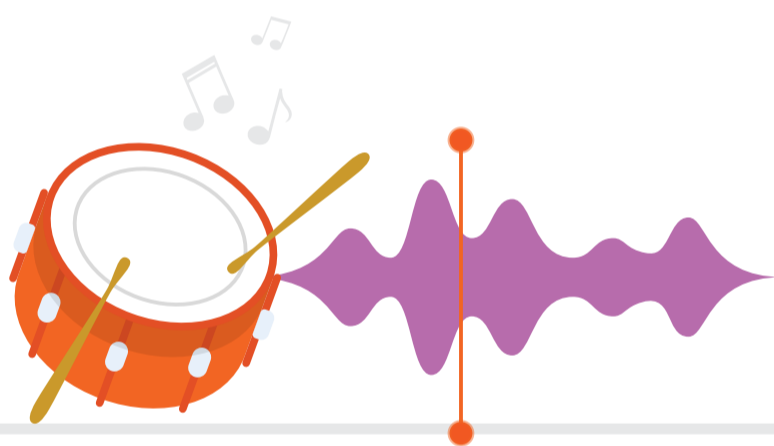
## Interacting with Users

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- Asking my name
- Chatting (conversation)
- Answering Math problems

06

## Playing with Sound



- Adding sounds to a Sprite
- Playing music
- Applying different sound effects
- Recording and playing your own sounds
- The dancing cat

07

## Project : Music Band

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- Adding sound and music effect

08

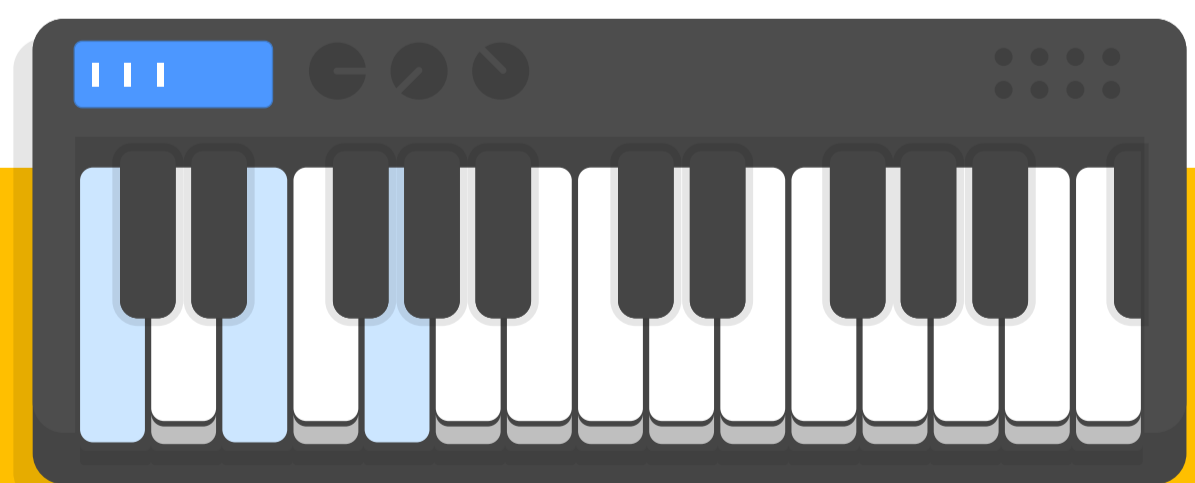
## Project : Dance Party

- Adding sound and music effect



## Skill Benefits

- Abstract Thinking
- Creative Thinking



Level 02

INTERMEDIATE

# Story telling and Animation through CODING !



Course Duration  
22 Hours



Session  
09 - 30



## Learning Outcome

- Higher understanding of Scratch
- Ability to use Scratch to create animation and story projects
- Creation of cool animations and interactive stories

Session

Curriculum

Outcome

09

Scratch Overview

- Overview of Scratch interface
- Overview of creating and saving projects

10

Paint in Scratch



- Paint editor
- Creating your own Sprites
- Creating costumes
- Creating backdrops
- Art project

11

Scratch Blocks and  
Block Categories

- Overview of all block categories
- Exploring the programming blocks

12

## Animating a Sprite

- About pixels and coordinate plane of the Stage
- Fun with characters
- Animated creatures

13

## Sequencing and Looping

- Executing blocks of code in an order
- Running the code for a specified number of times

14

## Conditionals and Controlling

- Running the code only if a specified condition is satisfied
- Disabling a Sprite
- Stopping a project at some instance

15

## Dialogue & Narration

- Display and thinking
- Six-word animation
- Interactive presentation

16

## Events and Working with Events to Create Interactive Triggers

- Broadcasting messages
- Sprites communicating with each other

17

## Project : Talk Show Animation

- Animating Sprites

18

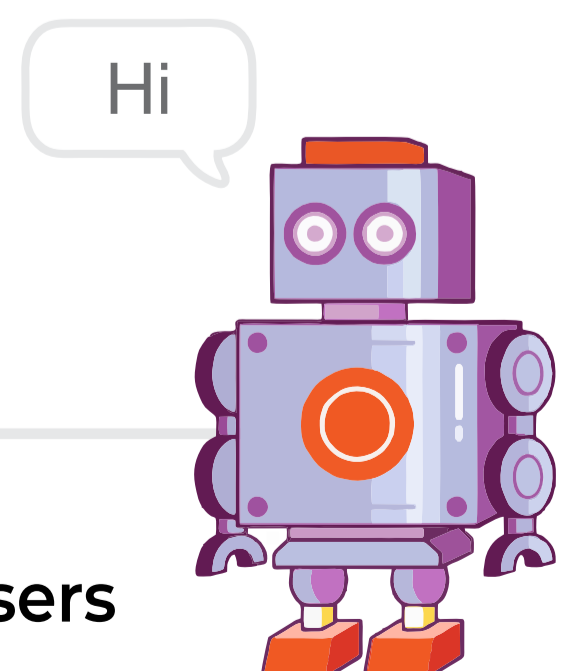
## Interacting with Users

- Input handling
- String operations
- Random chat

19

## Project : Chatbot

- Interacting with users



20

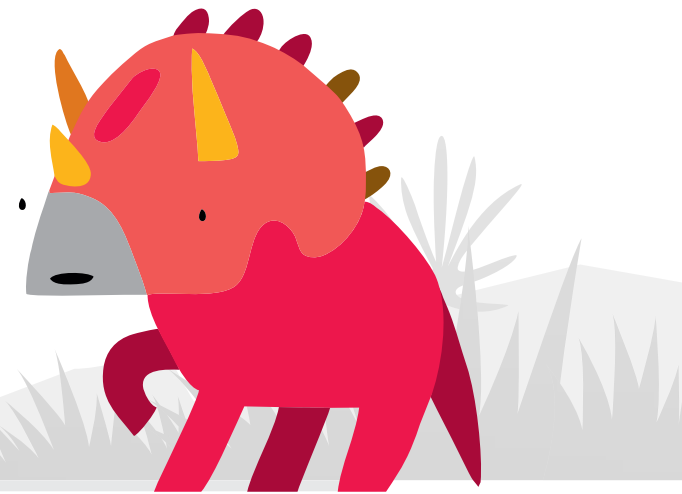
### Story Creation

- Concept of story creation
- My first slideshow

21

### Project : Comic Strips

- Caricature Story Creation



23

### Project : Beach Story

- Adventure Story Creation

25

### Project : Fish Tank Conversations

- Chat Story Creation

26

### Project : Castle Quiz

- Riddle Story Creation

27

### Project : Taco Story

- Anecdote Story Creation

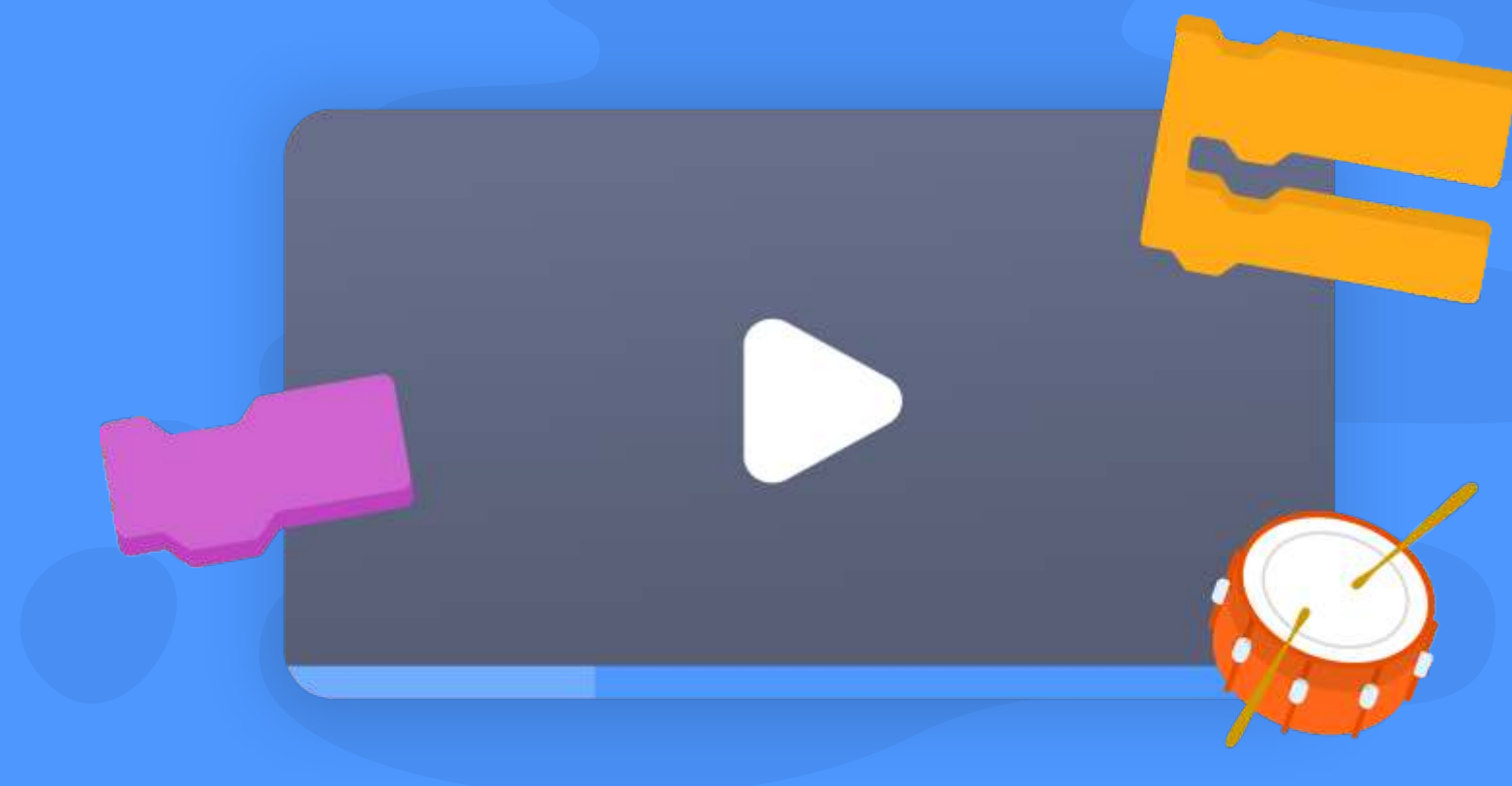


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### Skill Benefits

- Abstract Thinking
- Creative Thinking
- Imaginative Thinking
- Presentation Skills
- Logical Thinking



**Level 03**

**ADVANCED**



# Scratch that Gamify it!!



Course Duration  
**30 Hours**



Session  
**31 - 60**



## Learning Outcome

- Complete understanding of Scratch
- Understanding of complex programming concepts
- Ability to use Scratch to create game projects
- Creation of fun & interactive games

**Session**

**Curriculum**

**Outcome**

31

Scratch Overview

- Overview of Scratch interface
- Overview of programming blocks

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Sensing in  
Scratch

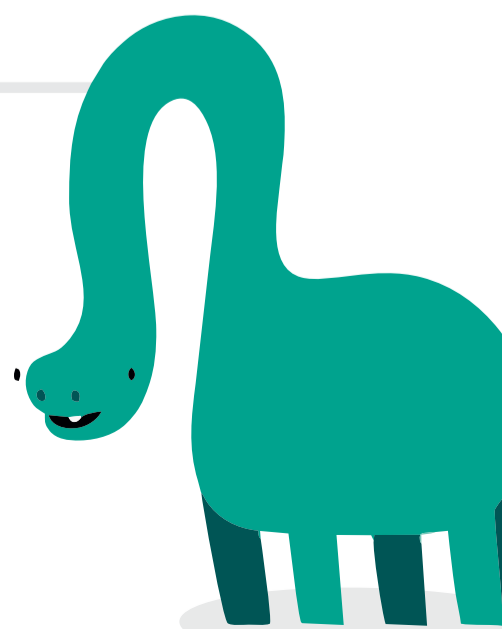


- Sensing mouse touch, colour on the Stage and edge of the Stage
- Sensing keyboard key press
- Sensing other Sprites

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Project : Interactive  
Greeting Card

- Animating characters



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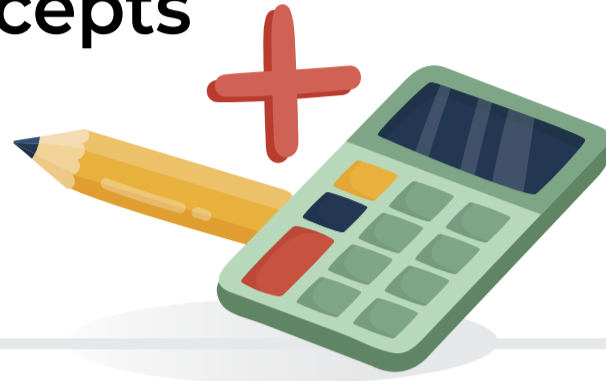
### Creative Coding

- Programming a Sprite to draw
- Drawing as the Sprite moves
- Drawing different shapes

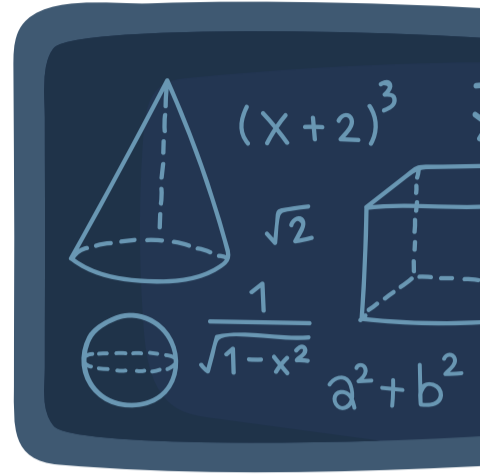


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### Math Concepts



- Arithmetic operations
- Random numbers
- Comparing numbers
- Logical arguments
- Mathematical operations



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### Project : Math Calculator

- Operators

37

### Introduction to Variables

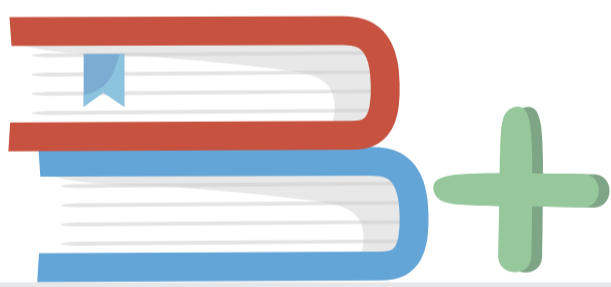
- Concept of variables
- Creating variables
- Using variables

38

### Project : Math Quiz

- Conditionals and controlling
- Input handling
- Operators

39



- Conditionals and controlling
- Events and input handling
- Operators

40

### Introduction to Lists

- Concept of lists
- Creating lists
- Using lists

41

### Performing List Operations

- Operation to add an item to the end of the specified list
- Operation to delete any item of the list
- Operation to delete all the items of the list at once
- Operation to insert an item containing the given text into





the list at specific position

- Operation to replace an existing list item at a specific position with a new item

- Operation to recall a certain item in a list

- Operation to get the index of the item in the list where it first appears

- Operation to get the length of the list i.e. the number of items in the list

- Operation to search for a particular item in the list

- Operation to show and hide the specified list's Stage monitor

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## Performing List Operations

43

## Project : Maze Game

- Game Design

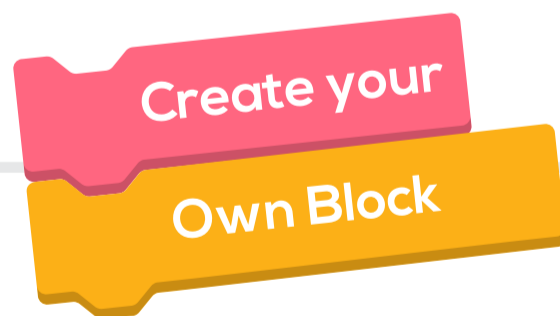
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- Game Code

45

## My Blocks

- Creating my own blocks
- Concept of running a script without screen refresh



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## Project : Pong Game

- Game Design

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- Game Code



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## Project : Catch Me If You Can

- Game Design

49

- Game Code



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### Project : Flappy Bird

• Game Design and Code



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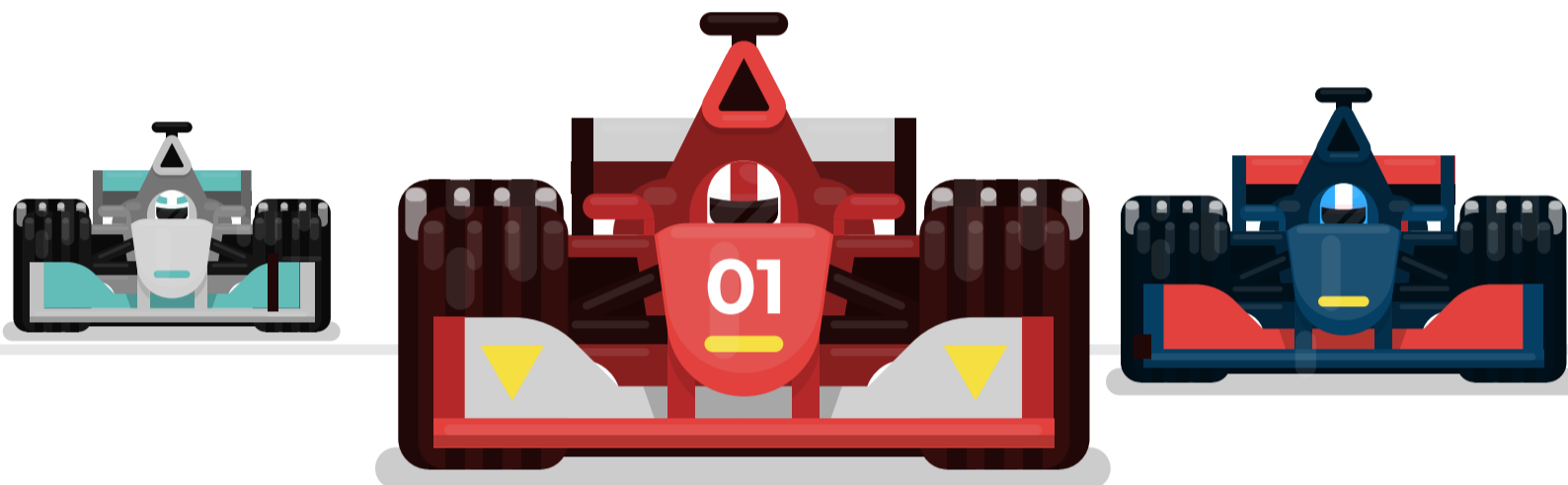


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### Project : Racing Track

• Game Design and Code

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### Project : Platformer Game

• Game Design and Code

60



### Skill Benefits

- Abstract thinking
- Creative thinking
- Imaginative thinking
- Presentation skills
- Logical thinking
- Innovation