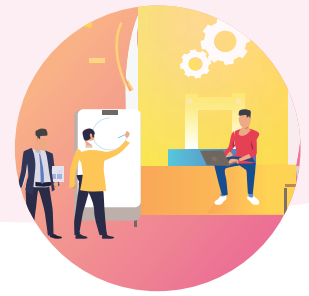




BASIC PROGRAMMING CONCEPTS

In these classes students learn basic concepts of programming such as commands, sequencing, algorithm, and code. These concepts are unfolded through unplugged activities and puzzles.

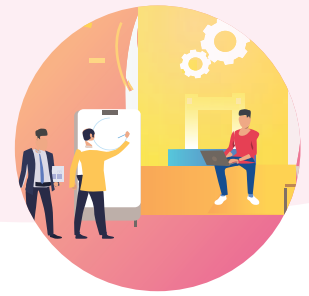
SESSION	CONCEPT	SKILLS
01	Algorithms and Code	Step - Wise Thinking Explore the JavaScript platform, basic drawing commands.
02	Command, Sequence	Sequencing Putting commands in a sequence to solve puzzles.
03	Sequential Coding	Decomposition Breaking down task into small steps and write code to draw simple art.
04	Debugging	Problem Solving, Resilience Identifying errors in the given code.
05	Formative Assessment	Assessment Of Learning
06	Pattern Recognition Using Loops	Pattern Recognition, Decomposition Identifying patterns in code while solving puzzles.
07	Shapes and Patterns Using Repeat Loop	Pattern Abstraction, Decomposition Identifying repetitive blocks of code for drawing simple geometric shapes.
08	Circle And Patterns - I	Pattern Abstraction, Decomposition Identifying repetitive patterns from the drawings and writing code using loops.
09	Circle and Patterns - II	Pattern Abstraction, Decomposition Identifying repetitive patterns from the drawings and writing code using loops.



ADVANCED PROGRAMMING CONCEPTS

In these sessions, students learn about some advance concepts of programming like counting loops , nesting loops , conditional statements for decision making and how to use them while writing code. Students are also encouraged to bring in their creativity while building personalized projects for visual storytelling and game building.

SESSION	CONCEPT	SKILLS
10	Nested Loops - I	Loops Within Loops Recognize patterns within repeated patterns.
11	Nested Loops - II	Loops Within Loops Recognize patterns within repeated patterns.
12	Formative Assessment	Assessment Of Learning
13	Conditional Statements	Problem Solving, Decision Making Using conditional statements in code while solving complex puzzles.
14	Conditional Loops	Pattern Abstraction, Decision Making Using loops and conditionals while making a simple animation.
15	Nested Conditionals	Pattern Recognition, Condition Evaluation Using nested conditional to write code to create rangoli patterns.
16	Formative Assessment	Assessment Of Learning
17	Events Basics	Logic Building Use events and create interactive animation.
18	Game Building	Keyboard Keys Driven Events Control character movements using keyboard keys.
19	Storyboarding	Creativity Use events to create an animated story.
20	Introduction To Functions	Logic, Abstraction Use existing function blocks to solve complex puzzles.



21	Edit and Create New Functions	Abstraction Edit existing functions and write code to accomplish specified tasks.
22	Variables	Data Manipulation Store data from user input to personalize interaction.
23	Functions And Variables	Logic, Data Manipulation Use variables and functions to create complex animation.
24	Formative Assessment	Assessment Of Learning
25	Coding Character Movements	Introduction To Sprites, Movements And Behaviors Learning about four directions, moving the sprite along X-Y axis.
26	Characters And Events	Collision Detection Using Events Using events to identify collision or touch between sprites.
27	Events With Mouse Click	Mouse Click Based Events Controlling character movements and behaviors using mouse.
28	Events With Keys	Keys Based Events Designing games in which player controls Sprite movements using keyboard keys.
29	Project Work - I	Game Building Design a personalized game by applying the learning of loops, events, variables, creation of new behavior, math and logic blocks as well as the use of random integers.
30	Project Work - II	Complete the game.