

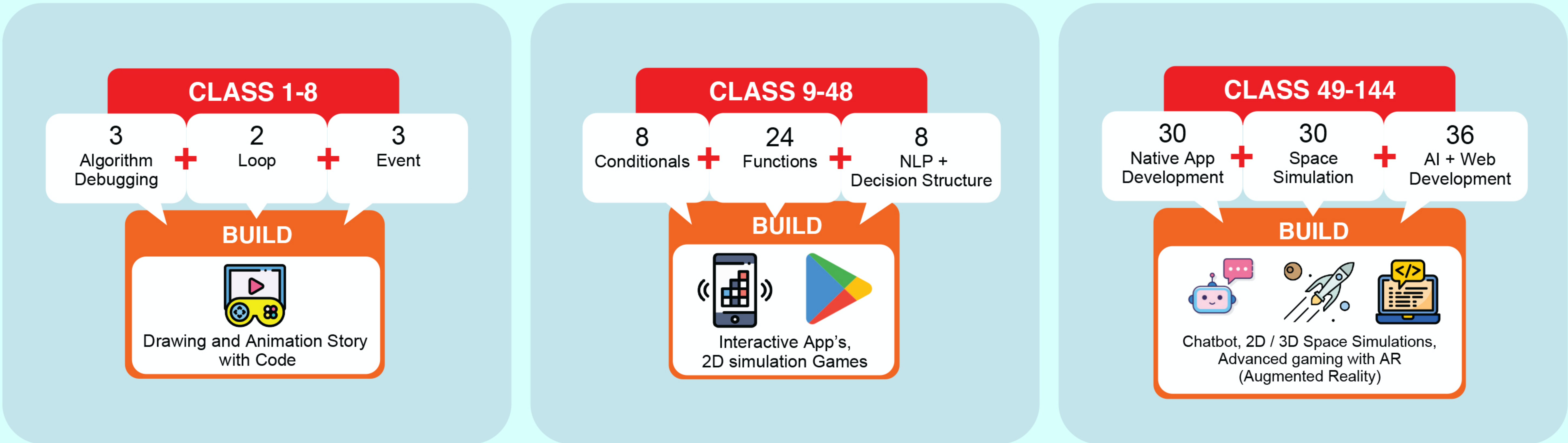
"The course is phenomenal. Not just coding, a new kind of personal expression. My kid's extroversion has gone up from the confidence of creating complex animations and apps in class." -- Kerry Bajaj, Mom, Nutritionist.



Build Commercial-Ready Games & Apps with Full UI/UX Interface

Kids creativity declines 96% from Age 9 since rule-based learning emphasize binary outcomes.

In WhiteHat Jr Coding, kids use foundation of **logic--sequence, loops, commands--to experiment, stumble, debug, and create commercial-ready apps and games.**



WhiteHat is created by alumni of the following esteemed institutions



FOUNDATION

CLASS	CONCEPT LEARNING	BUILDING SKILLS
T	Command Block Based Commands	Photo frame Code Studio I Sprite Lab
1	Events + Sequences Enable Click Event to trigger change in the game/story Understand the basics of Game Development: Player & Playground, Enable Continuous Movement of the Player	Soccer Activity Code Studio I Sprite Lab
2	Events + Sequences Enable Arrowkey Events & Collision Events + Sprite Animation	Space Game: Fly me to the Space Code Studio I Sprite Lab
3	Spatial Reasoning: Pixels Enable controlled movement of game sprites/players on user-input	Space Game: Fly me to the Space - Dodge the Enemy Code Studio I Sprite Lab
4	Spatial Reasoning: Location (x,y) + Directions Understand the unit of length/distance in Game-development Enable controlled movement in the required cardinal directions	Constellation + Angry Bird Puzzle Code Studio I Sprite Lab
5	Spatial Reasoning: Inter-cardinal Directions Enable controlled Movement in intercardinal directions	Score a Goal + Angry Bird Puzzle Code Studio I Sprite Lab
6	Loops + Randomisation Use loops and random location to create multiple sprites at random locations	Spot the Boy + Create the Night Sky Code Studio I Sprite Lab
7	Student-led Checkpoint: Events Apply user interaction and collision events to build the first part of the game	Ping-pong/ Bouncing Ball Game Code Studio I Sprite Lab
8	Student-led Checkpoint: Spatial Reasoning Apply spatial reasoning to build the movement of the ball in intercardinal directions	Ping-pong/ Bouncing Ball Game Code Studio I Sprite Lab
9	Student-led Revision Class Revision Class: User interaction & Collision Events, Directions, Location (x,y)	Ping-pong/ Bouncing Ball Game Code Studio I Sprite Lab
10	Numerical Variables Declare and Initialise Numerical Variables	Zoom-in Zoom-out Let's Water the Flower Code Studio I Sprite Lab
11	String Manipulation String Variable Declaration & Initialisation Concatenation	Compound Words Countries & Currencies Code Studio I Sprite Lab
12	Cartesian Coordinate System Generate a Random Number to randomise events in the story/game Correlate movement with change in cartesian coordinates	Follow the Red Dot! Park the Black Car! Code Studio I Sprite Lab
13	Introduction to Conditionals Apply If conditionals, and perform math operations on variables	Roll your Own Dice! Code Studio I Sprite Lab
14	Conditionals, Variable Assignment & Operation Apply conditionals on x-coordinate of sprites to build dynamic playground/background	Fix the Satellite Drive to the Gas Station Code Studio I Sprite Lab
15	Function with parameters Create your own functions for movement of sprites	Code Studio I Sprite Lab
16	Student-led Checkpoint: Randomisation using numbers Randomisation using numbers, Math Operations & String Manipulation	Happy Wheels: Car Racing Game Code Studio I Sprite Lab

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
17	Sprite Animation Events, Variable and Loops	Happy Wheels: Car Racing Game Code Studio I Sprite Lab
18	Conditionals While – Do conditions, Nested Loops	Fighter Jet Game Code Studio I Sprite Lab
19	Functions Create function Repeat Loop	Fighter Jet Game Code Studio I Sprite Lab
20	Extended Functions Loops , Nested Functions	Fighter Jet Game Code Studio I Sprite Lab
21	4-Step App Development Framework Introduction to Design Elements & their Properties such as Color, Element Id, Text & other properties setProperty()	Flashlight Applications Code Studio I Sprite Lab
22	Design Discipline: Introduction to Colour Themes Understand Colour themes in an application Read colour palettes	Colour Palette Code Studio I Sprite Lab
23	Introduction to I/O UI Elements & Design Balance Input UI Elements: text_input Output UI Element: label getText()	Greeting Card Designer App/ Birthday Card Code Studio I Sprite Lab
24	Math Operations on Variables Initialisation, Assignment & Math Operations	Pocket Money Manager Code Studio I Sprite Lab
25	Scope of Variables Understand Global and Local Variable Scopes	Capitals Application Code Studio I Sprite Lab
26	Introduction to Debugging Debug at various steps of app development Read and interpret error to debug the code at different steps of app development	Debugging Apps Code Studio I Sprite Lab
27	String Manipulation I Declaring, Assigning & Manipulating String Variables UI Element: Checkbox	Typing Practice Application Code Studio I Sprite Lab
28	String Manipulation II Concatenation	Typing Text Application Code Studio I Sprite Lab
29	Student-led CheckPoint: Variables & Debugging Perform String Comparison using If-conditionals Read and interpret error to debug the code at different steps of app development	Typing Practice Application Code Studio I Sprite Lab
30	Student-led CheckPoint: UI Elements & Navigation Showcase the applications developed so far by applying the UI knowledge thus far	Professional Portfolio Application Code Studio I Sprite Lab
31	Introduction to Boolean Variables & Logic Gates Apply If-Else conditional UI Element: Radio Buttons Enforce algorithmic thinking thro	Character Builder Application Code Studio I Sprite Lab
32	Branched Conditionals If-Else conditional to build logic - gate based apps	Game of Gates! Code Studio I Sprite Lab

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
33	Introduction to Iterative Loops Apply For loop and understand counter variable & each iteration	UnStructured - Bullet unstructure sentences! Code Studio I Sprite Lab
34	Iterative loops to scan through index components Read each character of a string using a For Loop	Word & Character Counter Application Code Studio I Sprite Lab
35	Introduction to timed loop Start and stop timedloop to build a timed jumbled word game	Timed Jumbled Tester Code Studio I Sprite Lab
36	Student Led Checkpoint: Loops & Conditionals Build a Digital clock by applying string concatenation, if-else conditional & time-based loop	Digital Clock Application Code Studio I Sprite Lab
37	Student Led Checkpoint: UI Elements + Conditionals Design the basic UI of Rock-Paper-Scissors	Rock-Paper-Scissors I Code Studio I Sprite Lab
38	Introduction to Functions + Delay Block Build the scorekeeping functionality using functions to display Bot's choice	Rock-Paper-Scissors II Code Studio I Sprite Lab
39	Introduction to Persistence of Vision Create animations through an understanding of the concept of persistence of vision, framerate & framecount	Virtual Flipbook Animation Code Studio I Sprite Lab
40	Co-ordinate System in Game Lab (p5.js) Understand the World & Screen of the Game Lab (p5.js)	Drone Delivery to the Pin! Code Studio I Sprite Lab
41	Sprite Navigation in p5.js Build user-trigger event & resulting change in the state-based simulations	State-based Simulation Game I Code Studio I Sprite Lab
42	Sprite Navigation in p5.js Build sprite interactions using collide and touch events in JS	State-based Simulation Game II Code Studio I Sprite Lab
43	Rotational Motion in p5.js Understand the science of rotation & build rotational animations/simulations using change in direction and speed	State-based Simulation Game III Code Studio I Sprite Lab
44	Set up Draggability in p5.js + Cursor-tracking Understand the rationale behind waste segregation Build the logic to trigger event to open the trash-cans	Trash Sorter Game I Code Studio I Sprite Lab
45	Checkpoint: Coordinate + Conditionals + sprite properties Build the scorekeeping & result logic by setting up conditions for the sameRead and interpret errors in Game Lab to debug the code	Trash Sorter Game II Code Studio I Sprite Lab
46	Sequential Conditional Logic Position the sequence of rocket assembly in the correct location	Lunar Launch Mission - Rocket Assembly Code Studio I Sprite Lab
47	Vertical Animation/ Navigation in Game Lab Build the launch logic using timedloop and counter	Lunar Launch Mission - Countdown to Launch Code Studio I Sprite Lab
48	Student-led Checkpoint: Kinematics in Game Lab Build the final stages of the mission using kinematics in Game Lab	Lunar Launch Mission - Landing the Rover Code Studio I Sprite Lab

EXPLORATION

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
49	SpaceTech - Mission Moon (Rocket Launch -1) Design	Game Lab
50	SpaceTech - Mission Moon (Rocket Launch -2) Simulation and animation	Game Lab
51	SpaceTech - Mission Moon (Rocket Launch -3) Coding	Game Lab
52	Introduction to Data structures - ARRAY Concept	App Lab
53	Score Calculator (Basic Array Implementation) Implementation	App Lab
54	Tiffin Planner App using Arrays - Design Array App	App Lab
55	Tiffin Planner App using Arrays - Dev Array App	App Lab
56	Hot & Cold Game Concept of radial distance and locus	Game Lab
57	Local and Global Variables Revision of variables and introduction to local and global variables	App Lab
58	Local and Global Variables Variable scope and its applications	App Lab
59	Local and Global Variables Reinforcement through quizzing marathon	App Lab
60	Music Playlist 1. Introduction to the concept of Master Data Table 2. Readrecords to build customised login page	App Lab
61	Music Playlist Updaterrecord to build the add functionality	App Lab
62	Music Playlist Play Screen Configuration	App Lab
63	Pacman I Use groups to build the playground	Game Lab
64	Pacman II Pacman eats pills and scorekeeping	Game Lab

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
65	Pacman III Coding the Ghost	Game Lab
66	Array Revision Reinforce the concept of arrays	App Lab
67	Space Tech - Days, Month, Year Exhibit I: Earth's rotation and days Exhibit II: Moon's rotation and phases	Game Lab
68	Space Tech - Days, Month, Year Exhibit III: Earth's revolution and years	Game Lab
69	Space Tech - Solar Eclipse Exhibit on the science of solar eclipse	Game Lab
70	Superheroes I Create login screen and registration window screen	App Lab
71	Superheroes II Task manager through databases	App Lab
72	Game Design & I/O Camera coordinates in game building	Never-ending Game
73	Game Design & I/O Camera coordinates in game building	Never-ending Game
74	Game Design & I/O Camera coordinates in game building	Never-ending Game
75	Persistence of Vision & Frame Rates Frequency of frame change	Flip Movie in Game Lab
76	Persistence of Vision & Frame Rates Frequency of frame change	Flip Movie in Game Lab
77	Introduction to OOPS Object oriented programming activity/game building	App lab
78	OOPS - Abstraction Concept of abstraction & its applications	App lab/Game Lab
79	OOPS - Inheritance Concept of inheritance & its applications	App lab/Game Lab
80	OOPS - Polymorphism Concept of polymorphism & its application	App lab/Game Lab

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
81	OOPS - Encapsulation Concept of Encapsulation & its application	App lab/Game Lab
82	Native App UI & UX of a native app	
83	Native app String manipulation through event-based programming	Case Converter App
84	Native App: Professional Portfolio UI/UX Design	Professional Portfolio
85	Native App: Professional Portfolio UI/UX Design	Professional Portfolio
86	Native App: Professional Portfolio Basic Front End - Screen Navigation	Professional Portfolio
87	Native App - Hangman Game building through functions and loops	Hangman in Thunkable
88	Native App - Hangman Game building through functions and loops	Hangman in Thunkable
89	Native App - Hangman Game building through functions and loops	Hangman in Thunkable
90	Space Tech - Space Exploration Coding Simulation: Concept of light years	Space Tech Simulation in Thunkable
91	Space Tech - Space Exploration Coding Simulation: Concept of light years	Space Tech Simulation in Thunkable
92	Space Tech - Space Exploration Space Travel Game	Exhibit I Black Holes
93	Space Tech - Space Exploration Space Travel Game	Exhibit II: Worm Holes
94	Space Tech - Space Exploration Space Travel Game	Game
95	Mathemagical Black Holes Number theory via Mathemagical Blackholes	Exhibit Mathemagical Blackholes Simulation
96	Mathemagical Black Holes Number theory via Mathemagical Blackholes	Exhibit Mathemagical Blackholes Simulation

SPECIALIZATION

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
97	Native App: Bulls & Cows Apply String Manipulation to build a single player logic game	Single Player Bulls & Cows
98	Native App: Bulls & Cows Apply String Manipulation to build a single player logic game	Single Player Bulls & Cows
99	Native App: Bulls & Cows Apply String Manipulation to build a multi player logic game	Multi Player Bulls & Cows
100	Native App: Smart Energy UX/UI design components of Thinkable	Energy Saver app
101	Native App: Smart Energy UX/UI design components of Thinkable	Energy Saver app
102	Native App: Smart Energy UX/UI design components of Thinkable	Energy Saver app
103	Revision via Hangman Reinforce the concepts of UI/UX and String Manipulation	Revision via Hangman
104	App Design UX/UI design components of Thinkable	Monkey Maze Game
105	App Coding Event Based Programming with Game UX/UI design	Monkey Maze Game
106	App Coding Event Based Programming with Game UX/UI design	Monkey Maze Game
107	Native App: Memory Match using Arrays Shuffling items in an array via a game of memory	Monkey Maze Game
108	Native App: Memory Match using Arrays Shuffling items in an array via a game of memory	Monkey Maze Game
109	Native App: Memory Match using Arrays Shuffling items in an array via a game of memory	Monkey Maze Game
110	Native App: Stacks & Arrays Concept of LIFO and FIFO	A Game of Stacks
111	Native App: Stacks & Arrays Concept of LIFO and FIFO	A Game of Stacks
112	Speech Recognition: Voice Assisted Native App Concept and applications of Speech Recognition	Voice Assisted Native App

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
113	Speech Recognition: Voice Assisted Native App Concept and applications of Speech Recognition	Voice Assisted Native App
114	Speech Recognition: Voice Assisted Native App Concept and applications of Speech Recognition	Voice Assisted Native App
115	Computer Architecture: Logic gates Concept & Application of AND, OR gates	Circuit Game
116	Computer Architecture: Logic gates Concept & Application of NAND, NOR gates	Circuit Game
117	Computer Architecture: Logic gates Concept & Application of XOR, XNOR gates	Circuit Game
118	Revision via Hangman Reinforce the concepts of arrays, computer architecture (logic gates) and speech recognition	Revision via Hangman
119	Local Storage Databases Create Database Records	Private Investigator/ Crime Mystery App
120	Local Storage Databases Call/Query Database Records	Private Investigator/ Crime Mystery App
121	Local Storage Databases Delete and Update Database Records	Private Investigator/ Crime Mystery App
122	Space Tech: Local Storage Databases on Space Create Spacetech Simulation using Databases	DB enabled Space Tech Simulation
123	Space Tech: Local Storage Databases on Space Create Spacetech Simulation using Databases	DB enabled Space Tech Simulation
124	Space Tech: Local Storage Databases on Space Create Spacetech Simulation using Databases	DB enabled Space Tech Simulation
125	Revision via Hangman Reinforce the concepts of storage databases via a game of hangman concepts of databases - read/query	Revision via Hangman
126	Native App: Professional Portfolio Populating the UX/UI of the Professional Portfolio + Back-end logic	Professional Portfolio
127	Native App: Professional Portfolio Populating the UX/UI of the Professional Portfolio + Back-end logic	Professional Portfolio
128	Revision via Hangman Reinforce the concepts of storage databases via a game of hangman concepts of databases - read/query	Revision via Hangman

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
129	Search Trees: Recursive Functions Recursive functions and search trees	Tic-Tac-Toe
130	Search Trees: Recursive Functions Recursive functions and search trees	Tic-Tac-Toe
131	Search Trees: Recursive Functions Recursive functions and search trees	Tic-Tac-Toe
132	API Integration Introduction to APIs and integration in Thinkable	API Enabled Native Apps
133	API Integration Introduction to APIs and integration in Thinkable	API Enabled Native Apps
134	API Integration Introduction to APIs and integration in Thinkable	API Enabled Native Apps
135	Databases via API Web API integration in Thinkable	Dungeons and Dragons Spells Game App
136	Databases via API Web API integration in Thinkable	Dungeons and Dragons Spells Game App
137	Databases via API Web API integration in Thinkable	Dungeons and Dragons Spells Game App
138	Prebuilt Agent Import Import prebuilt agent into an already existing Thinkable app	Agent import
139	Dialogflow or equivalent platform Build intents for their professional portfolio	AI Chat Bot
140	Dialogflow or equivalent platform Build intents for their professional portfolio	AI Chat Bot
141	Dialogflow or equivalent platform Build intents for their professional portfolio	AI Chat Bot
142	Native App: Professional Portfolio Front-end + Back-end + Chatbot Integration	Chatbot enabled Professional Portfolio
143	Native App: Professional Portfolio Front-end + Back-end + Chatbot Integration	Chatbot enabled Professional Portfolio
144	Native App: Professional Portfolio Front-end + Back-end + Chatbot Integration	Chatbot enabled Professional Portfolio