

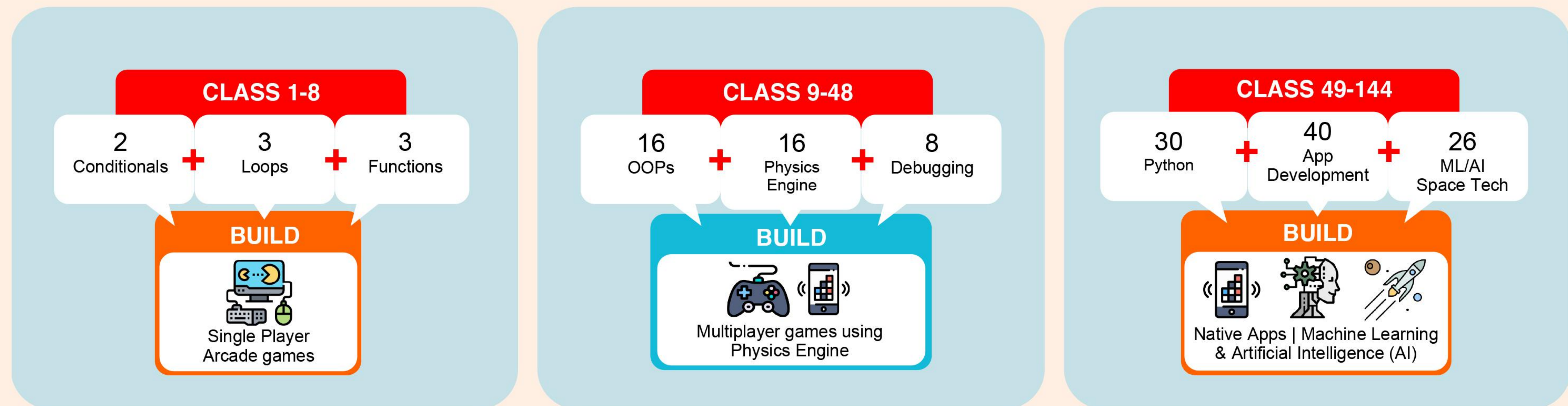
Shrey, my 10 year old has developed keen interest in coding after doing the WhiteHat Jr course. His logical thinking is sharper and can now easily relate to structures and algorithms, and wants to create new real-world programs by himself. I wish every kid has exposure to this course!" - Leena Shah, Mom, Entrepreneur.



Build full entrepreneur-ready games and apps with Object Oriented Code.

Coding in Grades 7-9 enables kids to express themselves through the creative medium of computer programming.

In WhiteHat Jr Coding, kids use foundation of **logic-sequence, loops, commands to Learn Algorithms, Sprites, Multi player games, ML, Artificial Intelligence & Space Tech.**



WhiteHat is created by alumni of the following esteemed institutions



PROGRAMMING (JS + Algorithms + Git + Physics Engine + Game Design)

CLASS	CONCEPT LEARNING	BUILDING SKILLS
T	Game Design Basics Game Design and Code	Arcade Game Design and code
1	Custom Functions Creating Functions	Creating Animation Abstraction
2	Sprites Creating Sprites	Moving object Pattern recognition
3	If Conditionals Conditional Programming	Character Control Logical Thinking
4	Game Design Game Design and code	AI based Game
5	Loops Looping	Obstacles in Game Recursive thinking
6	Variables Manipulating variables	Game States Abstraction
7	Pre-defined Functions Calling function to perform pre-defined tasks	Sound effects Abstract Thinking
8	Single Player Game Game design and code	Maze Runner Game
9	Variable scope Understanding life of variables	Gravity effect Algorithm
10	Graphics Loading images	Running Animation Abstract Thinking
11	Algorithm Illusion for moving backgrounds	Parallax Background Algorithm Design
12	Random Number Generation Generating random values	Spawn Game Objects
13	Algorithm Algorithm to detect collision	Collision Detection Algorithm Design
14	If-else conditional Conditional Programming	Scoring System Logical Thinking
15	Code Readability Writing readable code	Refactoring code Abstraction
16	Game Design Game Design and Code	Endless Runner Game

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
17	Iterator Iterating over data	Blocks Generator Recursive thinking
18	Return Values Returning values from functions	Rotation and Drop Speeds Abstraction
19	Flags Storing levels as flags	Game Levels Algorithm Design
20	Game Design Game Design and Code	Puzzle Game
21	OOPS Using object oriented style	Cannon shooter Abstraction
22	Recursion Function calling itself	Moving targets Recursive Thinking
23	Graphics Creating graphic effects	Explosion effects Creativity
24	Game Design Game Design and Code	Single Shooter Game
25	Object types Different data types	Ammunition Storage Decomposition
26	Events Detecting events	Two player control Parallel thinking
27	Booleans True/False data type	Ammunition Control Logical Thinking
28	Game Design Game Design and Code	Multi Shooter Game
29	Classes Designing classes	Characters in Game Abstraction
30	Asynchronous calls Parallel instructions	Chracter animation Parallel thinking
31	OOPS Using object oriented style	Game World Decomposition
32	Game Design Game Design and Code	RPG Game

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
33	Nested Loops Recursive looping	Traps Recursive Thinking
34	Logical Operators Stating conditions for rewards	Rewards Logical Thinking
35	Algorithm Programming for adaptive difficulty	Game Difficulty Algorithm Design
36	Game Design Game Design and Code	Adventure Game
37	Debugging Correct Errors in code	Game Narrative Problem Solving
38	Flow Control Flow control between player actions	Player Controls Logical Thinking
39	Callback Issuing callback instructions	Feedback Parallel thinking
40	Game Design Game Design and Code	Education Game
41	Game Story Design a story	Self-designed Game
42	Game Characters Design Game Characters	Self-designed Game
43	Game World Create Game Objects	Self-designed Game
44	Game Mechanics Create Rule Play	Self-designed Game
45	Game Algorithm Algorithm to implement Game rules	Self-designed Game
46	Game Debugging Checking for errors	Self-designed Game
47	Game Testing Testing the game	Self-designed Game
48	Publishing a game Publishing the game on a platform	Self-designed Game

MOBILE APP DEVELOPMENT (UI/UX + React Native + User Centred Design)

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
49	Apps which solves problems Problem-solving apps	User Centred Design Understanding Case Study
50	Markup Language Creating content using markup	HTML Page Design
51	CSS Selectors Styling a page	Stylesheet Design
52	Box Model Flexbox	Styling using flexbox Design
53	Mobile Friendly Static Web Page HTML + CSS	A static website
54	Document Object Model(DOM) DOM Manipulation	User interaction on web Abstraction
55	OOPS vs Functional Programming Styles of Programming	Functionally styled program Programming Styles
56	Mobile Friendly Interactive Web Page HTML + CSS + Javascript	An interactive website
57	React Design Philosophy Intro to React	React design Design
58	Virtual DOM DOM issues	DOM experiments Abstraction
59	JSX Javascript XML	A pseudocoded application Abstraction
60	Building React Native Environment Installation	React setup Development
61	A one screen reactive native app App design	Single Screen Mobile App
62	React Components App components	A react native component Architecture
63	React Props React Architecture	Customization in native components Architecture
64	React State React Architecture	Manipulating component states Architecture

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
65	React Component Architecture React Architecture	React Component Design Architecture
66	An interactive one screen mobile app App Design	Interactive Single Screen Mobile App
67	React Component APIs Component Architecture	React Component Design React Architecture
68	Handling events touch, click, scroll, swipe etc.	Add events to the app Design Pattern
69	Displaying images Displaying views	Display images in the app Design Pattern
70	Collecting user input Forms	Form displays in the app Algorithmic thinking
71	Displaying Lists in an application Displaying views	App News Feed Design Pattern
72	Form handling in an application Forms	User Registration Form
73	Creating multiple screens Navigation between screens	React Navigation Development
74	Life Cycle of components Component Lifecycle	Mounting and Unmounting react components React Architecture
75	A multi-screen mobile app React Navigation	Multi screen mobile apps
76	Build Reusable React Native components Component Reuse	Reusable react component Development
77	Kitchen sink of React native components React Native component Library	Reusable react component Code Reusability
78	UI design using kitchen sink react native components React Native Kitchen Sink	Mobile app using React Native kitchen sink
79	Handling Data in React Data handling	App which collects and handles data Data Management
80	Passing Data between two React Components Data handling	Pass data b/n screens and components Data Management

CLASS	CONCEPT & LEARNING	BUILDING SKILLS
81	Data handling with Firebase Real-time Database	App connected to RTDMS Data Management
82	Connecting App to Remote Realtime database Data Persistence	Firestore integrated App
83	React Router Routing in react applications	Routing in the app Pattern recognition
84	Redux Asynchronous Data Management	Redux Data architecture Data Architecture
85	React and Redux Data Flow in the app	React-Redux App Data management
86	App Design React + Redux	Large Scale mobile App
87	Adding authentication to a React Native App User Login	App Authentication Security
88	Deploying React Native App to Playstore App publishing	Published App
89	User Centred Application Design Identifying a problem to solve	User Understanding Research
90	User Centred Application Design Develop a plan for a mobile app	Use scenarios Brainstorm
91	User Centred Application Design Design a mockup of the app	UI mockup Design
92	User Centred Application Design Identify React Native components for the app	Native components Decomposition
93	User Centred Application Design Design the mock UI of the app with different screens	App UI Design
94	User Centred Application Design Design for the data flow between the components and database	App Data Flow Data management
95	User Centred Application Design Adding game design to the application	App Gamification Gamification
96	User Centred Application Design Deploying the app to Playstore	Self-designed Application prototype targeting a problem Published App

DATA SCIENCE (Python + Statistics + ML/AI + Space Tech + Interpreting user behavior)

