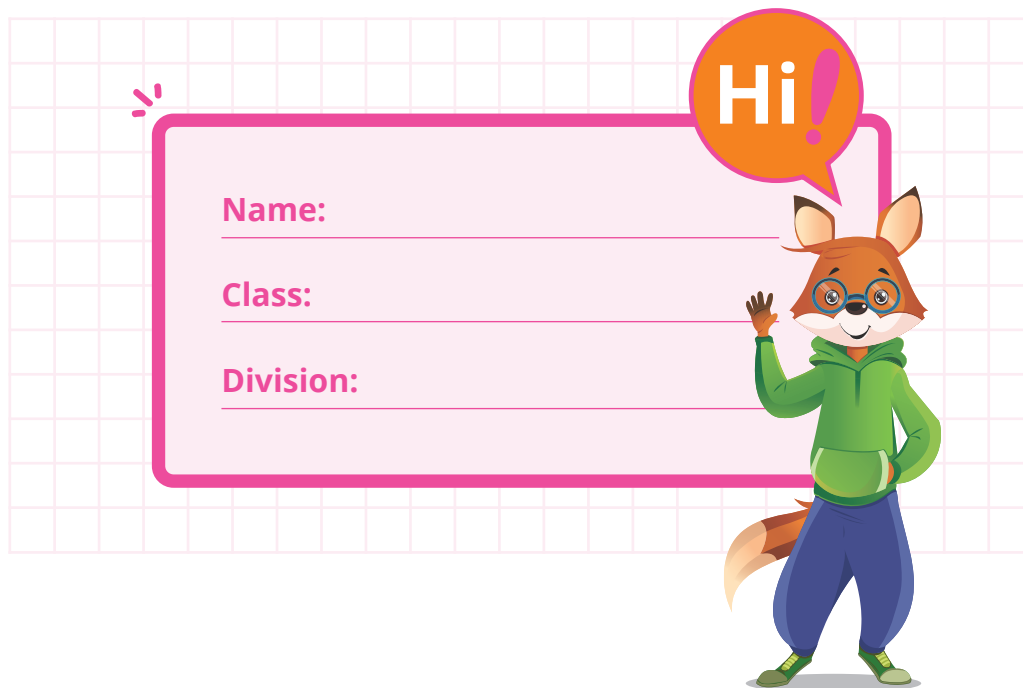


CLASS 8



CCS

PART 1



Head Office

401, B Wing, Business Square,
Andheri Kurla Road, Chakala,
Andheri East, Mumbai - 400093, India

NOTE TO PARENTS

USE

THINK

BUILD

Coding and computational thinking are set to become core life skills for the future just as literacy and numeracy are today. Most advanced countries have included coding as part of the core curriculum and NEP 2020 clearly sets out the roadmap for the Indian education system as well.

The Coding and Computational Skills (CCS) program follows a unique USE-THINK-BUILD (UTB) pedagogical approach.

USE



The first step in the UTB approach is to take the students through an immersive experience that introduces them to their project. Students USE apps, games, websites, visualizations and engage with audio-visual content. This helps them obtain the perspective and user experience of what they would be creating through their project.

THINK



The second step in the UTB approach is to make students THINK. Through independent and group activities and routines, students learn to understand the computational thinking and logic that is required to build their project. This deeper understanding helps them develop skills like observation, visualisation, design, critical thinking, problem solving, and decision making.

BUILD



The third and final step in the UTB approach is to make students BUILD their projects - puzzles, artwork, publication, animations, apps, games or websites. Students use age-appropriate, easy to use software and applications to bring their ideas to life. The ability to build, code and showcase their projects is essential to nurturing their creativity and express their ideas.

The LEAD CCS curriculum and progression is benchmarked against international standards and there is a clear skill progression through each grade, making the LEAD CCS program one of the most comprehensive programs available to schools and parents.

NOTE TO PARENTS

Your child has an exciting year of learning ahead! While learning to code, children need to develop computational thinking. To help them acquire the skills without being discouraged by the technicality of the subject, we take them through exciting App creation using MIT App Inventor in Class 8. Since MIT App Inventor is an intuitive, visual programming environment, they will find it interesting and entertaining and thus be comfortable with coding from the beginning. Eventually, the students move on to understanding Android Studio - which is a popular tool to create Apps by professionals.

Given below are some highlights of their learning path in CCS in this school year. By the end of this year, your child will be able to:

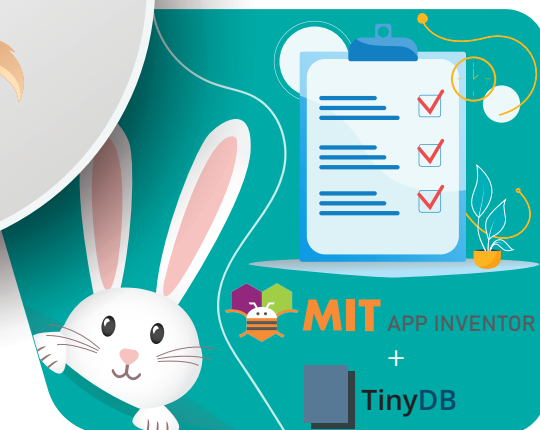
Visualise, decompose, and use their analytical and coding skills to create a Library database and generate a Book Distribution System using MySQL



Imagine, design, and use their sequencing skills to create an AudioNotes app and a ScienceTrivia app using the MIT App Inventor software



Visualise, analyse, decompose, and use their abstraction and critical-thinking skills to create a PianoLite app and a MobileLibrary app using Android Studio







Design and use their sequencing and coding skills to create a RabbitMash app and a ToDoList app using the MIT App Inventor software and TinyDB

This curriculum will not only improve the coding skills of children, but will also make them good problem-solvers, decision makers, and critical thinkers by developing their analytical and higher-order thinking.

HOW TO USE THE BOOK

The book is an integral part of the Coding and Computational Skills (CCS) program. Each class has a CCS book that covers the important skills for learners. Specific learning outcomes for each unit can be found at the start of each unit. There are various activities that build computational thinking and cover the requisite skills to be learnt through that unit.

Key sections of this book:

<p>Learning Outcomes list the expected measurable learning outcomes achieved by the student that will be covered through the unit.</p>	<div><p>Learning Outcomes</p><ul style="list-style-type: none">• Identify and use components in the App Inventor development environment.• Design and build an app — AudioNotes — using a speech recogniser.• Design and build an app — ScienceTrivia — using lists, variables, conditionals, and operators.</div>				
<p>Introduction gives a brief of the skills and projects that the students are going to cover in the unit.</p>	<div><div>Introduction</div><p>Welcome to Learning through Apps!</p><p>In this unit, we will learn to build apps that can help us in gathering information and enhancing our learning process.</p><p>We will learn to</p><ul style="list-style-type: none">• use the App Inventor interface.</div>				
<p>Observations table is used to list the recordings from the videos/apps reviewed in class.</p>	<div><div></div><div><table><tr><th>Observations</th></tr><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table></div></div>	Observations			
Observations					
<p>Skill Time contains the Use-Think-Build approach to enable learning. It contains activities that are to be done in the class.</p>	<div><div>Skill Time 1</div><p>App Inventor Development Environment</p><p>We can be creative while designing apps and writing codes for apps. App Inventor is a tool that can be used to create apps very easily. Let us learn how to use it.</p></div>				
<p>Activity is essentially for building skills through which students can identify the extent to which they have attained the learning outcomes of the unit.</p>	<div><div>Activity</div><p>We use mobile phones for many tasks such as connecting with people, ordering food, and booking cabs. These tasks are carried out with the help of apps. The word 'app' is a short form of the word 'application'. Let us explore some educational apps and go through their features and functions.</p></div>				

HOW TO USE THE BOOK

QR Codes are available at various points in the workbook to enhance learning through content and to enable rewards (badges and certificates) on completing specific levels.



SCAN ME

For Videos



SCAN ME

For Certificates
and Badges



SCAN ME

For Documents

Diary Entry is used to keep a check on the skills that students have learned through the Skill Time.



Diary Entry	I can
Adding images to an app.	<input checked="" type="checkbox"/>
Adding buttons and labels to an app.	<input type="checkbox"/>
Adding speech to text functionality to an app.	<input type="checkbox"/>








Practice Questions are primarily for home practice and for students to identify the extent to which they have attained the learning outcomes of the unit.

Practice Questions

- Which of the following sub-blocks is needed to use a variable after it is created?

(a)
(b)

ANNUAL LEARNING PLAN

PART 1	Unit Name	USE	THINK	BUILD	Unit No.
	Learning through Apps	MIT App Inventor with emulator/ AI2 companion	Imagine, Design, and Sequencing	Create the AudioNotes and ScienceTrivia apps using App Inventor.	1
	Fun with Apps	MIT App Inventor with emulator/ AI2 companion	Develop, Design, Sequencing, and Coding	Create a RabbitMash and ToDoList app using Canvas, Procedure, and TinyDB.	2
	Musical Journey with Apps — I	Android Studio (Introduction)	Visualisation, Decomposition, Creativity, and Coding	Design a PianoLite app.	3
	Musical Journey with Apps — II	Android Studio (Basic)	Visualisation, Critical Thinking, Decomposition, and Analysis	Create a PianoLite app.	4
PART 2	Unit Name	USE	THINK	BUILD	Unit No.
	Mobile Library App	Android Studio (Advanced)	Visualisation, Decomposition, Analysis, Abstraction, and Coding	Create a MobileLibrary app.	5
	Digital Library — I	MySQL	Visualisation, Decomposition, Abstraction, and Coding	Create a Library Custom Report.	6
	Digital Library — II	MySQL	Visualisation, Coding, and Abstraction	Create a Book Distribution System.	7

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Annual Learning Plan		07
Unit 1	 Learning through Apps	09
Unit 2	 Fun with Apps	20
Unit 3	 Musical Journey with Apps — I	30
Unit 4	 Musical Journey with Apps — II	40

The CCS book contains important skills that students learn in class. Each unit comprises of a few skill times and a final project. A Skill Time includes many plugged and unplugged activities. Students should complete the activities in the book after seeing a video or demonstration by the teacher in class as per the LEAD learning plan.

Students should read the CCS book at home for revising the concepts taught at school. They can scan the QR codes at home to watch the videos, read the documents, and download the badges and certificates. Students should also refer to it while preparing for assessments.