CSpathshala
Bringing computational thinking to schools

Overall goal of the lesson	Children will learn meaning of program
Prior knowledge required	Knowledge of the word algorithm (done in Std. 1).

MODULE 1:   **Module time:** 35 minutes

Goal:	Introduction of word program to children.
Description:	Children will learn about what is program.
Material required:	**Physical:** 1. One copy of the worksheet per child. 2. Writing material to solve the worksheet: pencil and eraser. **Electronic:** PPT Presentation
Procedure Details:	Slide #2&3: Start the class by talking to the children about if they remember Flurb and word algorithm. Revision about Algorithm using Flurb and grid with an apple one step away from Flurb Slide #4: Show new grid with flowers and Flurb multiple steps away and ask children to give the number of steps to reach there . Slide #5: Introduce the word PROGRAM. Ask children to say it loud. Slide #6 Explain to the children that we will write a program to move Smiley to the diamond with a given set of orders or commands – Up, Down, Left, Right, Rest (no instruction) and stop. Slides#7-9 The program help write the steps Slide #10: After the activity, we will return back to a program for another of the example tasks we learnt about earlier - Find / Buy and eat a mango. Let us first talk about Aambot. Aambot is a robot. Do you know what is a robot? A Robot is a machine that looks like a human and it can do tasks just like us. Aambot loves to eat mangoes. How can Aambot find and eat mangoes? Let us now teach Aambot to complete this task using algorithm. Slide #11: To help Aambot find a mango, we need to know what Aambot can do and how we can give it orders or instructions. We need to 'teach' Aambot to learn and find mango. This slide tells you two things - first the type of activities Aambot can do. Second, it tells what all commands or orders it can understand. We can teach Aambot only in the language or words that it understands, you see. Thinking question: Can Aambot fly? Does it have wings? Can you teach Aambot to fly? NO because it cannot fly. Could you teach Aambot to reach the mango in the maze if it did not know how to move? Answer: NO

Slide #12-14: These slides explain how to help Aambot with steps to complete simple tasks as shown in picture on the slides. Slide #12 is a very simple example in which Aambot has to be instructed to move just one step. Slide 13 and 14 are a little more involved with moving two times in different directions. It also highlights the concept of having more than one correct way to complete the same task. Slide 13 shows one way and Slide 14 shows another way to do the same task and help Aambot eat a mango.

Slide #15:
Here is another activity for children that they can complete with the help of the teacher in class. It is based on Aambot example that we learnt earlier. You can see Aambot is standing below waiting for your instructions and algorithms. What does an algorithm have? Answer "steps or list of things to do". You need to tell Aambot what steps it must take or what it needs to do in order to find the mango and eat it. Note, Aambot can begin the task only at the green arrow.

Slide #16:
This slide shows the algorithm for finding a mango to help Aambot. Top left hand side shows the recap of how Aambot can be taught to do this task. Right hand side is the maze with a start and stop sign.

Let us begin.
STEP 1, START. Aambot is a machine. You need to first start the machine. STEP 2, Next step, MOVE ----. Can you tell where Aambot must move? Answer: MOVE RIGHT.
Step 3: You can give any order to Aambot - which is the correct one? Hint: Look at the list of orders Aambot understands. Ans: MOVE RIGHT (again) or MOVE UP. Both are correct. Highlight the fact that there can be mulitiple ways to achieve the same goal. Aambot and move right twice or move right and then move up to go towards the mango in the maze / puzzle.

Slide #17:
Depending upon the choice of instructions taken in previous slide,
Step 4 correct answer is MOVE UP or MOVE RIGHT.
Step 5 Move UP
Step 6 Move RIGHT
Step 7 Pick up Fruit
Step 8 Eat Fruit
Step 9 STOP.

Once this is done, announce that students are now going to solve some fun activities on programs. Distribute the worksheets and read through it. Show example of start card and smiley face and give them directions as east west north south and stop.

Explain the activities on the sheet using the PPT