Representing Information In Code – Revision
Lesson Plan: Class 03 / ALG / 13

Overall goal of the lesson: Children will revise what they learnt in the last cast and learn to apply it to a bigger picture

Prior knowledge required: Std. 3-ALG-12

MODULE 1:
Module time: 35 minutes
Goal: To get the students to apply what they have learnt about algorithm and program by solving the same problem on a larger scale.

Description: Children will get better at writing a program for an algorithm.

Material required:
Physical:

1. One copy of the worksheet (03-ALG-13) per child.
2. Writing material to solve the worksheet: pencil and eraser.

Electronic:
PPT Presentation for PPT 03-ALG-13

Procedure Summary:

1. Distribute the worksheets (03-ALG-13) to the children.
2. Read through the worksheet and discuss with the class about the activity.

Procedure Details:

1. Start the class by talking about what was covered in the previous class. Algorithm and Program definitions.
2. Revise the 4 by 4 graph picture along with the steps to make the picture.
3. Now, go once through the code that was defined the last time for the steps.
4. Show how the algorithm for the picture looks written in code.
5. Also talk about the example of another code that was covered the last time. This is so that, if they want, they can use either of the two codes or even define their own code for the activity.
6. Now introduce what we are going to do in this class – use a ten by ten graph and draw/paint a picture on it.
7. Get the students to start thinking about it before going to the example slides.
8. Show first example – which is alphabet X. Talk about it. Ask them to start listing the steps.
9. There will be different ways to draw/paint the alphabet. Get them to see that. Talk about the different ways. Discuss about number of steps in doing it in different ways. (Climbing down on the left side of X, moving to the other end at the bottom and climbing up till the top right requires less number of steps than going row by row horizontally)
10. This is a good chance to talk about how, both the ways is right but if you can do something in less number of steps isn't it better and faster? (Without specifically talking about optimization, you are getting students to start thinking about it)
11. Move over to the second example – that of alphabet Z. In this case, all would mostly go along the top line from left to right , then diagonally from top right to bottom left and then again along the bottom line. But it is possible to go by column and that takes more steps. Again the same point of less number of steps can be made.

12. On to the third and the last example – alphabet Q. Look at different ways of moving along the graph to draw/paint Q. Ask them if they can find which way they would be able to draw it in minimum number of steps.
13. It is time to convert the steps into the code now! So what will the steps for creating the first picture look like when written in the code?
14. Announce that they are now going to get a chance to do some fun activity based on what they have learnt.
15. Distribute the worksheets.
16. Explain the activities to be done.

Assessment :
Answer questions on the activity sheet

Information Broadcast : In Computer Science, the children learnt about applying their learning of algorithm, code and program to a bigger problem.