Information Processing
Lesson Plan: Class 05 / IP / 01

Overall goal of the lesson	Introduction to the topic of "Information Processing"
Prior knowledge required	Basic concepts about comparing similar quantities and objects, natural numbers

NOTE TO THE REVIEWER: *This LP is broken into two to match with the associated presentation.*

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

Goal:	Using some simple activities help comparing and organizing data and associate it with a purpose
Description:	We will look at numbers, graphical objects, and charts and treating that as data, we will try to organize it. This is expected to lead to an understanding of how we process any data available to us
Material required:	**Physical:** Regular writing pencils and maybe color pencils/crayons, scratch paper (to do calculation and sorting of numbers) **Electronic:** PPT – Information Processing
Procedure Details:	● The opening slide has animation: ○ The title shows up in the first bullet. It may be non-trivial to read ○ For any questions about what it implies, the goal is to assure... ○ That (information processing) is what we will learn ○ By virtue of brain exercises. Ask the class if they are ready? ○ Expected answer is a resounding "Yes". Hence the smiley. ● Engage the Class in all slides for the rest of this lesson ○ Each slide is an exercise with increasing complexity ○ Allow the students to absorb the information on each activity slide ○ Give them few seconds to minutes to think and process what they see ● Start with a simple comparison of two objects ○ It should be easy for the students to identify that the star is bigger ○ The next slides provides a means for "comparison" ○ The key is "**comparing**" the size of two objects ○ Comparing = Processing. It starts simply as that ○ Repeat with a set of line segments different in length ○ The additional step here is ordering according to length ○ That is **comparison put to use for sorting** (Processing). ● The comparison exercise now takes a more complex level: ○ We introduce a "table" – Table is a format of organizing data ○ The goal is subtle. The students are introduced to: ▪ A table format of data ▪ Comparison of quantities that is not uniform across columns ▪ A **simple sorting is not sufficient**. ▪ Two columns in the same table need independent sorting ▪ This is explained in the last slide with the table ○ Allow the students to look at and absorb all data ▪ How many types of drinks, money collected, etc.

	▪ Just question them like... ▪ "How much coffee was sold on Thursday?" ▪ A couple of additional questions can ensure they absorb data ▪ The "top selling" question can be asked then ▪ The next slide has answers. Let the class verify the answers ▪ Ensure they think/ask/consider how the answers came about ○ The 3rd slide on drinks summarizes the brain exercise students just experienced. ● What are we doing? ○ This is a summary of all the activity thus far in the class ○ It is important to realize that there was data presented as: ▪ Diagrams, lines, tables ▪ We processed that data with increasing complexity ● The simple brainteasers are designed to think in one more dimension ○ The examples are meant as thinking of patterns ○ Patterns help understand the relation between data points ○ 1,3,6,10,15 are data points with some relation that is hidden ○ Same with other sets of numbers ○ These are **sequences** (pattern) in mathematics ○ The goal here is to "process" the data points and determine hidden relations ● This brings us to close of part1 or Lesson 1 on **Information Processing** ○ The two slides summarize the activity to... ○ Introduce the terms "data", "processing", "information" ○ It is expected to set up students to look at and absorb data and be able to process it as desired
Summary	1. Data is simply what we observe as discrete bits where 2. Each can or may not be a part of a collective 3. It represents information – When we process it (compare, sort, etc.) we can extract useful information from it