**FACILITATOR’S MANUAL**

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| **AIM** – of this trainer manual is to provide a guideline to facilitator. Guideline of which all topics /sub-topics to be covered and its sequence, when to go for hands-on and recap. Basically WHAT–WHEN-HOW  Whole session will be in multiple iteration of 3 steps;  1. What to facilitate, 2. Relevant LAB assignments, 3. Recap and leanings from LAB  Also, there are TIPS (extract from facilitator’s learning) – objective of TIPS is to incorporate best practice and individual’s innovation in facilitating a particular topic. It is desirable that new tips should continue to add/update in this manual. |

**OOPs concept**

**Objective -**  To understand software object, class and OOPs concepts like Polymorphism, Encapsulation, Inheritance.

**ROUND 1**

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| Topics to be facilitated (teach) | Object   * Real life object * All object have states and behaviors * Software Object * Class * Graphical reprsentation of class (three part rectangular box – three part for its name, states, and behavior respectively) |
| LAB assignment | **Workshop 0.1**  *Consider (observe) few real-world objects (like table, car, bottle, etc)*  *For each object ask yourself two questions: "What possible states can this object be in?" and "What possible behavior can this object perform?"*  *List down states and behavior of the objetcs*  **Workshop 0.2**  *Create class diagram of object of workshop 0.1* |
| Recap (learning from the LAB assignment) | Understaning of state and behavior of an object  Concept of class, understanding that object are instance of a class |

**ROUND 2**

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| Topics to be facilitated (teach) | OOPs concept   * **E**ncapsulation * Concept of subclass * **I**nheritance * **P**olymorphism * Overloading * Overriding |
| LAB assignment | **Workshop 0.3**  *Create generalize to specilize obejcts of vehicle and its sub classes.*  *Vehicle class will be pre-created, with three sub classes – Land, Air and Water vehicle. Divide the class into 3 group, and each group will create structure for each sub class* |
| Recap (learning from the LAB assignment) | Understaning of PIE (**P**olymorphism, **I**nheritance, **E**ncapsulation) |