



**Lab 08 Activity**  
**C1 Batch**  
**Date: 12 Oct 2017**



# **Data Structures and Algorithms**

# Activity Details: Team Formation



- Form 7 teams
  - Members in each team: [3 to 5]



# Undertaking's



- 07 Teams and 07 Undertakings by each team
- Fill up the details and return back the sheet provided to you with:
  - Team Number
  - Team Members Name
  - Roll numbers

*[off-course with a small twist]*



# Undertaking 01



- For the question provided to you, understand and note the **purpose** of the task.
- Make sure your description is
  - Clear
  - Specific
  - Unambiguous
  - Correct
  - Valid
  - Simple
  - Realistic



# Undertaking 02



Write the **description** of the task in the form of:

**ALGORITHM** *Name(Params)*

// Write the purpose here – short description of task  
// carried out

// Input:

// Output:



# Undertaking 03



Write an **algorithm** after reading the task description.

Following conventions need to be followed:

- Use  $\leftarrow$  for assignment
- Use  $=$  for comparison
- for loop: for  $i \leftarrow 0$  to  $n-1$  do
- while loop: while *condition* do
- Use *return* statement
- Indent the code
- Free to decide on other conventions



# Undertaking 04



Identify and write the **Basic Operation**

- What is a Basic Operation?
  - The most important operation of the algorithm
  - Contributes most to the total running time
  - Most time consuming operation
  - One in innermost loop



# Undertaking 05



Identify if the algorithm has

- **Best Case**
- **Average Case** and
- **Worst Case** analysis

Or

only one **General** analysis





# Undertaking 06



Perform **Efficiency Analysis:**

- Set up a mathematical equation
- Solve the equation
- Comment on the efficiency obtained
- Identify the order of growth
- Write conclusion



# Undertaking 07



## Task **Implementation:**

- The further implementation details are made available to you in **lab08-c2.pdf**





**Thank you.**

