

## **Sub : 802 : AI\_ML Practical Exercise2**

**Submission Date: 08-01-2020**

---

1. Write a python function called as **calc**.
  - a) It should take 3 arguments
  - b) First argument - a of type int
  - c) Second argument - b of type int
  - d) Third argument - op of type int
  - e) If op is 1, the function should return sum of a and b
  - f) If op is 2, the function should subtract b from a and return the result
  - g) If op is 3, the function should multiply a with b and return the result
  - h) If op is 4, the function should divide a by b and return the result
  - i) If op is any other number, the function should print saying that **invalid op** and return nothing
2. Write a Python function that takes a list of strings as input and returns a tuple containing the shortest and longest words from the list, in that order. If there are multiple words of the same shortest or longest length, return the first shortest or longest word encountered.
3. Write a Python function that takes a list and an element as input. The function should add the element to the list only if it is not already present in the list.
4. Write a procedure in Numpy that takes an array and returns the transpose of the array.
5. Write a procedure in Numpy that takes a list of numbers and returns a 2D numpy array representing a **row** vector containing those numbers. Recall that a row vector in our usage will have shape  $(n, 1)$  where  $n$  is the number of elements in the row.
6. Write a procedure in Numpy that takes a 2D array and returns the final column vector as a two dimensional array.
7. Perform EDA(any 10 functions) and necessary data set pre-processing using Pandas library for the given data set “adult data.csv”.