

# Assignment 1

Algorithm Design and Machine Learning Course ( CS60020 )

January 2017

1. Given a sorted Array  $A$  and an interval  $[a, b]$  write the best possible algorithm you can think of to compute the number of elements in the interval.
2. You are given an array  $A[0,1,\dots,n-1]$  storing exactly  $n$  of the  $n+1$  integers  $0,1,2,\dots,n$ . That means that exactly 1 integer  $x$  in the range  $0,1,\dots,n$  is missing in  $A$ . Given that  $A$  is sorted in ascending order give an algorithm which will find  $x$  in the least possible number of computations.