

Indian Institute of Technology Patna
Department of Mathematics
MA2101: Algorithm Lab
Assignment 3
Full Marks: 15

1. Write a program to find the index of a number x in an sorted array A of size n . Your program should report if the number x is not present in A . [5]

Input:

13	23	35	43	47	67	75	83	91
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 and $x=13$

Output: 0

Input:

13	23	35	43	47	67	75	83	91
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 and $x=91$

Output: 8

Input:

13	23	35	43	47	67	75	83	91
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 and $x=88$

Output: number not present

2. Write a program to multiply two n -digit numbers that runs in better than quadratic time. [10]

Input: 45682956754235484659 and 548652987653421568

Output: 25064090708053352792781767460123725312