

## Indian Institute of Technology, Guwahati CS348 - Implementation of Programming Languages Lab ASSIGNMENT 1[SET A]

- 1. A document is taken as the input. Take a single character as another input that is to be searched. Print 1 if the searched character is present in the given document, otherwise print 0. Print the number of iterations you need to reach the searched character.
- 2. Consider an array of size n. Add the first k numbers of the array. If k numbers are not present in array, then print 0 otherwise 1. Take n and k as user inputs.

EX:

n = 10 k = 15

ARRAY: 12, 230,2, 304, 760, 43,203, 300, 450, 130

sum = 2434

flag=0 ##15 numbers are not present in array

3. Consider an array of size n. Print the smallest and largest number and their location in the array. Take n as a user input.

EX:

ARRAY: 12, 230, 2, 304, 760, 43, 203,300, 450, 130

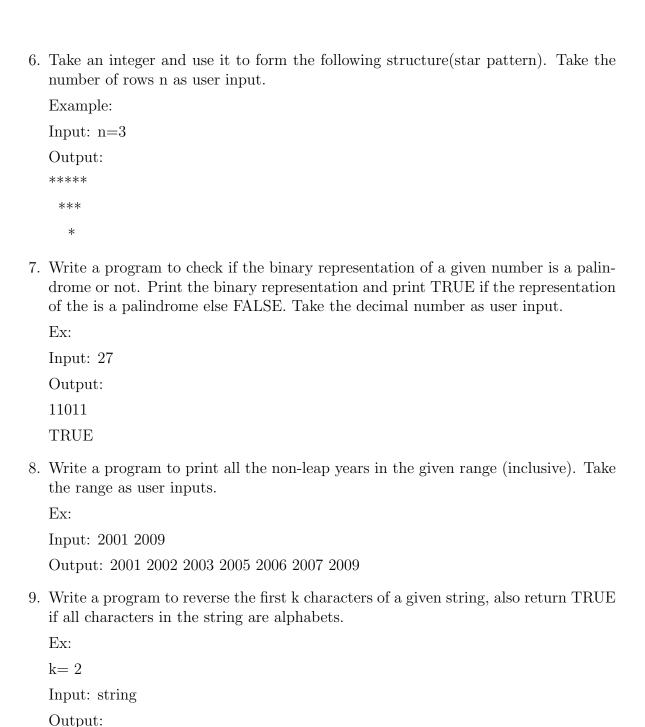
smallest=2

 $loc\_small=2$ 

largest=760

loc\_lar=4 ##array starts with index 0.

- 4. Design a calculator to perform various operations of floating point numbers: Addition, Subtraction, Multiplication, Division. Your design should follow this convention: to add press 1, to substract press 2, to multiply press 3, and to divide press 4.
- 5. Consider an unsorted array of size n and a positive integer k, then find out the k<sup>th</sup> largest element(s) and print the index(es). Take n and k as user inputs.



rtsing TRUE 10. Write a program to check if a string contains another string. The program takes two strings as inputs and returns the index where the second string is found. If the second string cannot be found, then return -1.

Ex:

str1: Hello str2: llo Output: 2

- 11. Consider a document containing characters, numbers and special symbols, write a program to find the list of alphabets, numbers and special symbols and their number of occurrences in the document.
- 12. Write a program which takes two numbers as inputs and shows all the prime numbers in between those numbers and also finds the multiplication between the sum of primes in even position and primes in odd position.

Ex:

If n1=1 and n2=10

Output: 2, 3, 5, 7

Multiplication = 70.

- 13. Write a program to find GCD of two numbers using Euclid's algorithm (non-recursive version).
- 14. Read two single dimensional sorted arrays of size n and generate a 2n sized single dimensional sorted array.
- 15. Write a program to find the most repeated integer in an array of size n. Take n and the elements of the array as user input.

 $\mathbf{E}_{\mathbf{x}}$ 

Input array: 1 2 3 2 4 2 5

Output: 2

## Best wishes