

# ESS101 : Programming 1 (C Programming)

## LAB - 6

Due: 23th September, 2019 @ 17:00

**Problem 1:** Write a (C) program that takes as input the number of integers to read, say **n**. Next it should read the **n** numbers, read them and allocate dynamic memory to store the **n** integers.. Finally it should use a loop to print the numbers. Make sure to free the allocated space before your function exits. Note: DO NOT USE ARRAYS.

**Example:**

5 10 20 30 40 50    **Expected output:** 10 20 30 40 50

**Problem 2:** Implement your own version of **strcmp** function to compare two character strings. Your (C) program should input two strings (maximum length not more than 255 characters) and use pointers while comparing the two strings. Allocate dynamic memory to store the strings. Your output should be '0' if the strings are equal, should be '1' if they are unequal. [For extra information do a **man strcmp** on Google to understand the (C) library version of **strcmp** (declared in (**string.h**)). Compare your output to the output of the library function]. Note: DO NOT USE ARRAYS.

**Example: 1** Input : string1 string2, Output: 1

**Example: 2** Input : samestr samestr, Output: 0

**Problem 3:** Implement your own version of **strcat** function to concatenate (join) two character strings. Your (C) program should input two strings **s1** and **s2** (maximum length not more than 255 characters) and store the strings using dynamic memory. Next it should allocate new memory big

enough to hold both these strings together. Now concatenate the two strings such that string `s1` is followed by `s2`. Print the new concatenated string. Note: DO NOT USE ARRAYS. [For extra information do a `man strcat` on Google to understand the (C) library implementation of `strcat`].

**Example: 1** Input : one two, Output: onetwo