



भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी  
**Indian Institute of Information Technology Guwahati**

**COMPUTER PROGRAMMING LAB (CS110)**  
**ASSIGNMENTS–08**

1. Complete all problems of assignment 7 first.
2. Write C program to allocate memory for a 1D array of float. Number elements should be user input. Store values in the array. Write a function to print those values. Free the allocated memory at the end.
3. Change the size of the allocated memory in the previous program using realloc. Print the base address and values of the array before and after changing the elements.
4. Write C program to allocate memory for a 2D array of float. Number rows and columns should be user input. Free the memory.
5. Write a program in C to dynamically allocate and deallocate memory for a lower triangular matrix.
6. Write a program in C to print the address of each character in a given string. The string is user input.
7. Write a menu-based (use do... while loop to create the menu) program in C to perform following operations on strings.
  - i. Concatenate two strings using the `strcat` function. The strings are user inputs.
  - ii. Compare two strings using the `strcmp` function. The strings are user inputs.
  - iii. Calculate length of a string using the `strlen` function. The string is a user input.
  - iv. Copy one string to another string using the `strcpy` function. The string is user input.
  - v. “exit” to terminate the program.
8. Write a program in C to convert all lowercase characters to uppercase in a string. The string is user input.