

Nirma University
Institute of Technology
B.Tech. Semester I/II (All Branches)
CE103 Computer Programming
List of Experiments

Sr. No.	Week No.#	List of Experiments	Schedule*	Mapped CLOs
1.	1	a. Elementary commands in LINUX/UNIX/Ubuntu b. Writing and compiling a simple C program ("Hello World") in LINUX/UNIX/Ubuntu c. Demonstrate different escape sequences	07/08/2017 to 11/08/2017	1
2.	2	a. Introduction to CodeBlocks IDE. Use CodeBlock to write and compile a simple C program ("Hello World"). b. Write C programs: i. To scan and print values of different types of variables ii. To print address of a variable	14/08/2017 to 18/08/2017	1
3	3	a. Demonstrate basic debugging in CodeBlocks. b. Write C programs: i. To scan two numbers and display result of different arithmetic operations ii. To calculate the gross salary (Gross Salary = Basic + DA + HRA). Scan all required variables. iii. To convert Fahrenheit to Celsius iv. To find greatest of two and three numbers using the ternary operator v. To calculate simple interest** vi. To find area and perimeter of a circle and rectangle** vii. To compute final marks as the weighted average of CE (40%), SEE (40%) and LPW (20%) examination. Scan marks in each component from total of 100 marks** viii. To swap the value of two numbers (i) using and (ii) without using a temporary variable.** ix. To separate and print digits of a three digit scanned integer**	21/08/2017 to 25/08/2017	3,4

4	4	<p>Write C programs:</p> <p>a. To display truth table (compute using logical and operator) of AND gate using formatted output</p> <p>b. To print a three digit integer in reverse and in words. (e.g. if input is 345, output should be Five Four Three) using switch and else-if ladder</p> <p>c. To find greatest of three numbers using nested if</p> <p>d. To find greatest of three numbers using (i) else if ladder (no nesting) (ii) switch statement</p> <p>e. To find the roots of a quadratic equation**</p> <p>f. Write a program to implement a simple number guessing game. Program should generate an integer randomly and ask the user to guess the integer. Based on the number guessed, it should display the appropriate message (correct or incorrect)**.</p> <p>g. To decide grade in the subject based on the following strategy:**</p> <p style="padding-left: 40px;">91-100 A+</p> <p style="padding-left: 40px;">81-90 A</p> <p style="padding-left: 40px;">71-80 B+</p> <p style="padding-left: 40px;">61-70 B</p> <p style="padding-left: 40px;">51-60 C+</p> <p style="padding-left: 40px;">41-50 C</p> <p style="padding-left: 40px;">40 D</p> <p style="padding-left: 40px;">< 40 F</p>	28/08/2017 to 01/09/2017	1,2,3,4
5	5 & 6	<p>Write C Programs:</p> <p>a. To display</p> <p style="padding-left: 40px;">1</p> <p style="padding-left: 40px;">1 2</p> <p style="padding-left: 40px;">1 2 3</p> <p>b. To display</p> <p style="padding-left: 40px;">1</p> <p style="padding-left: 40px;">2 2</p> <p style="padding-left: 40px;">3 3 3</p> <p>c. To display</p> <p style="padding-left: 40px;">*</p> <p style="padding-left: 40px;">* * *</p> <p style="padding-left: 40px;">* * * * *</p> <p>d. To display</p>	04/09/2017 to 15/09/2017	1,2,3,4

		<p>1 1 2 1 1 2 3 2 1</p> <p>e. To check whether the input number is an Armstrong number</p> <p>f. To check whether the entered number is Prime</p> <p>g. To write amount in words (e.g. 125 is one hundred twenty five)</p> <p>h. To display Pascal triangle**</p> <p>i. To check whether the entered number is Palindrome**</p> <p>j. Enhance the number guessing game developed earlier. The program should now display more appropriate message (Greater, Smaller or Correct). It should allow maximum 5 attempts from the user and still if the user cannot guess the number correctly, it should display "Sorry"**</p>		
6.	8	<p>Write C Programs:</p> <p>a. To find sum of all elements in one dimensional array</p> <p>b. To find number of odd and even elements in a one dimensional array</p> <p>c. To add two arrays and put their sum in to third array</p> <p>d. To sort the one dimensional array in an ascending or descending order as per the user choice</p> <p>e. To check whether the matrix is symmetric**</p> <p>f. To multiply two matrices. Store the result in the third matrix.**</p> <p>g. To read CE, SEE and LPW marks attained in different subjects and decide the strongest and the weakest subject based on total marks. Identify the weakest and the strongest components in the weakest subject.**</p>	25/09/2017 to 29/09/2017	1,2,3,4
7	9	<p>Write C programs:</p> <p>a. To check whether the input string is palindrome</p>	02/10/2017 to 06/10/2017	1,2,3,4

		<p>b. To check whether the input string is in title case</p> <p>c. To (i) find length (ii) copy (iii) compare and (iv) reverse the input string using standard-library functions</p> <p>d. To reverse the string without using strrev().</p> <p>f. To encrypt an uppercase text message using Caesar cipher method. (e.g. HELLO will be encrypted to KHOOR)**.</p>		
8	10	<p>a. Create a structure which holds various attributes (e.g. name, id, basic_salary, DA%, HRA%, total_salary etc.) of an employee. Write a program which allows you to scan these (except total_salary) attributes for 3 employees. The program should support following operations:</p> <ol style="list-style-type: none"> Display (total salary of the selected employee) Max (find and display name of the employee with maximum salary) <p>b. Repeat the above program using array of structure**</p>	09/10/2017 to 13/10/2017	1,2,3,4
9	13	<p>a. Write a user defined function (UDF) which accepts a string and an integer. It should display the passed string the specified integer number of times.</p> <p>b. Write a program which attempts to swap the value of two variables which are passed to it as arguments (pass by value)</p> <p>c. Write a C program to display a Fibonacci series using recursion.</p> <p>d. Write a UDF which accepts a one dimensional array as an argument and returns the length of it to the main function.</p> <p>e. Implement arithmetic calculator (supporting 4 basic operations) using user defined functions. There has to be a separate UDF for each of the operations. Result must be a global variable and it should store the resultant value of the operation based on user choice.**</p> <p>f. Repeat the above program where each function is in a separate file.**</p>	30/10/2017 to 03/11/2017	1,2,3,4

10	14	<ul style="list-style-type: none"> a. Write a program to swap two numbers using user defined functions and passing by pointers. b. Write a UDF which can accept a one-dimensional array as an argument. The function should add 1 to all odd element of the array and 2 to all even elements of the array. The final array should be displayed by the main() function. Repeat this program for two and three dimensional array. c. Write a UDF which accepts three strings as arguments. The function should concatenate first two strings and keep the result in the third string which should be displayed by the main() function. 	06/11/2017 to 10/11/2017	1,2,3,4
11	15	<p>Write C Programs:</p> <ul style="list-style-type: none"> a. To calculate the length of a file b. To concatenate two files c. To copy content of one file in to the another file 	13/11/2017 to 17/11/2017	1,2,3,4

** - Extra definitions (Optional)