

15ACS02-COMPUTER PROGRAMMING LAB
(Common For All Branches)

L T P C
0 0 3 2

| WEEK | LIST OF EXPERIMENTS |
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| 1 | Practice DOS Commands necessary for design of C Programs. |
| 2 | Practice LINUX Commands necessary for design of C Programs. |
| 3 | Practice the Raptor Tool |
| 4 | <ul style="list-style-type: none"> a. Write a program to perform arithmetic operations. b. Write a program to exchange two numbers without using temporary variable c. Write a program to exchange two numbers with temporary variable d. Write a program to find the maximum of three numbers |
| 5. | <ul style="list-style-type: none"> a. Write a program for $s=ut+1/2at^2$ b. Write a program to find area of square, circle and rectangle. c. Write a program to find the maximum of two numbers using ternary operator. d. Write a program for sum of first N natural numbers. |
| 6 | <ul style="list-style-type: none"> a. Write a program to compute the factorial of a given number. b. Write a program to check whether the number is prime or not. c. Write a program to check for number palindrome. d. Write a program to generate Fibonacci numbers in the given range. |
| 7 | <ul style="list-style-type: none"> a. Write a program to find the sum of the digits of a number. b. Write a program to find the sum of positive and negative numbers in a given set of numbers. c. Write a program to perform the operations addition, subtraction, multiplication of complex numbers. d. Write a program to find the sum of first and last digit numbers in a given number. |
| 8 | <ul style="list-style-type: none"> a. Write a program to read two matrices and print their sum and product in the matrix form. b. Write a program to find the maximum of a set of numbers. c. Write a program to read matrix and perform the following operations. <ul style="list-style-type: none"> a. Find the sum of Diagonal Elements of a matrix. b. Print Transpose of a matrix. c. Print sum of even and odd numbers in a given matrix. |
| 9 | <ul style="list-style-type: none"> a. Write a program to accept a line of characters and print the count of the number of Vowels, Consonants, blank spaces, digits and special characters. b. Write a program to insert a substring in to a given string and delete few characters from the string. Don't use library functions related to strings. c. Write a program to read two strings and perform the following operations without using built-in string Library functions and by using your own implementations of functions. <ul style="list-style-type: none"> i. String length determination ii. Compare Two Strings iii. Concatenate them, if they are not equal iv. String reversing |
| 10 | <ul style="list-style-type: none"> a. Write programs using recursion for Factorial of a number, GCD, LCM, Towers of Hanoi. b. Write a program for tic-tac-toe game. c. Write a program to implement numerical methods Lagrange's interpolation, Trapezoidal rule. |

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| 11 | <p>a. Write a program to exchange two numbers using pointers. b. Write a program to calculate the length of string using pointers. c. Write a program to using pointers to read in an array of integers and print its elements in reverse order. d. Write a program to generate pseudo random generator.</p> |
| 12 | <p>a. Write a program to evaluate the sum of the following series up to 'n' terms $e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots$ b. Write a program that prints a triangle of stars. Print 1 star in row 0, 3 stars in row 1, 5 stars in row 2, and so on. Here is what this looks like: For the non-star characters, use dot or space.********************************** c. Write a program to read student records into a file. Record consists of rollno, name and marks of a student in six subjects and class. Class field is empty initially. Compute the class of a student. The calculation of the class is as per JNTUA rules. Write the first class, second class, third class and failed students lists separately to another file.</p> |
| 13 | <p>a. Write a program to read last n characters of the file using appropriate file function. b. Write a program to copy the contents one of one file into another file using fgetc and fputc functions. c. A file consists of information about employee salary with fields employee id, name, Basic, HRA, DA, IT, other-deductions, Gross and Net salary. Initially only employee id, name, and basic have valid values. HRA is taken as 10% of the basic, DA is taken as 80% of basic, IT is 20% of the basic, other deductions is user specified. Compute the Gross and Net salary of the employee and update the file.</p> |
| 14 | <p>a. Write a program to perform Base (decimal, octal, hexadecimal, etc) conversion b. Write a program to read a set of strings and sort them in alphabetical order. c. Write a program to Convert Decimal to Hexa Decimal? d. Write a program to Convert Binary to Decimal? e. Write a Program to Add two numbers using Command Line Arguments.</p> |

NEW PROGRAMS:

1. Write a program to implement magic square.
2. Write a program to print 50 students details using structures.
3. Write a program to create one structure and declare it inside union then accept values for structure members and display them.
4. Write a program to find the speed of ordinary, express, super luxury buses based on their distance and time.
5. Write c Program to accept N integer numbers and store even and odd integers in separate arrays.
6. Write a c program to input real numbers and find the mean, variance and standard deviation.



A handwritten signature in blue ink is written over a circular stamp. The stamp contains the text 'P.V. NENDULA' and 'COLLEGE' below it.