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PSUC LAB

Experiment No.	Objective of Experiment	Scheduled Date	Execution Date	Signature
Ex-1	Program to implement conditional statements in C language. <ul style="list-style-type: none"> Write a program to calculate the insurance amount based upon the given condition if age 21-30 then the amount is 10000, if age 31-40 then the amount is 15000, if age 41-50 then the amount is 20000, if age 51-60 then the amount is 40000 otherwise, insurance is not possible but if gender is female there is a discount of 10% in the insurance amount, if the insurer is a smoker then the amount will be increased by 10% Write a program to check the given number is Even or odd Write a program to check the given year is Leap year or not Write a program to check given character is a vowel or not 	-		
Ex-2	Program to implement switch-case statement in C language <ul style="list-style-type: none"> Write a menu driven program to implement basic arithmetic functions using switch and functions Write a menu driven program to implement factorial, X to the power y, additions of digits of a number using switch and functions Write a menu driven program to check given number is prime and Armstrong using switch and functions 			

Ex-3	<p>Program to implement looping constructs in C language.</p> <ul style="list-style-type: none"> • Write a program to print the Fibonacci series • Write a program to calculate factorial • Write a program to print the following star pattern <pre> * ** *** **** ***** </pre> • Write a program to get addition of digits of a number 			
Ex-4	<p>Program to perform basic input-output operations in C language.</p> <ol style="list-style-type: none"> 1. Write program to convert decimal to octal using format specifier and vice versa 2. Write program to convert decimal to hexadecimal using format specifier and vice versa 3. Write program to convert octal to hexadecimal and vice versa 4. Write program using string input and output function (gets and puts) 5. Write program using scanf function to insert space into the string 6. Write program using of 6 function from string.h 			

Ex-5	<p>Program to implement user defined functions in C language.</p> <p>Write a program with the following functions</p> <p>is_prime() is_armStrong() NCR() NPR() to_upper() // to convert given character into upper case to_lower() // to convert given character into lower case is_upper() // to check given character is in upper case or not is_lower() // to check given character is in lower case or not is_digit() //to check given character is digit or not is_alphabet() //to check given character is alphabet or not power(x,y) // x to the power y factorial(n) // to calculate factorial of n</p>			
Ex-6	<p>Program to implement recursive functions in C language.</p> <p>Write a program which includes the following functions in recursive manner</p> <p>Factorial(n) // to calculate factorial of a give number Fib(n) // to calculate nth Fibonacci term Ackermann(0,n) // to compute ackermann function</p> $A(m,n) = \begin{cases} n + 1 & \text{if } m=0 \\ A(m-1,1) & \text{if } m > 0 \text{ and } n = 0 \\ A(m-1,A(m,n-1)) & \text{if } m > 0 \text{ and } n > 0 \end{cases}$ <p>where m and n are non-negative integers</p>			

Ex-7	<p>Program to implement one-dimensional arrays in C language.</p> <p>Write a program to read a single dimension array and print using functions. Also, add the following functions to your program.</p> <p style="text-align: center;">findminimum() findmaximum() findsumofarray()</p>			
Ex-8	<p>Program to implement two-dimensional arrays in C language</p> <ul style="list-style-type: none"> • Write a program to input, output of two matrixes with the following function addition, subtraction and transpose • Write a program to multiply two matrix using functions 			

Ex-9	<p>Practical 9: Program to implement or use pointers concepts in C language. Write following programs for pointers:</p> <ul style="list-style-type: none"> • Write a C program to add two numbers using pointers. • Write a C program to swap two numbers using pointers. • Write a C program to copy one array to another using pointers. • Write a C program to swap two arrays using pointers. • Write a C program to reverse an array using pointers. • Write a C program to search an element in array using pointers. • What will be the output of the C program? <pre>#include<stdio.h> void function(char**); int main() { char *arr[] = { "ant", "bat", "cat", "dog", "egg", "fly" }; function(arr); return 0; } void function(char **ptr) { char *ptr1; ptr1 = (ptr += sizeof(int))[-2]; printf("%s\n", ptr1); }</pre>			
Ex-10	<p>Practical 10: Program to implement or use double pointers and array of pointers concepts in C language. Write following programs for pointers:</p> <ol style="list-style-type: none"> 1. Write C program to demonstrate pointer to pointer or double pointer. 2. Write C program to demonstrate array using pointer to pointer or double pointer. 3. Write a program to add two 2 X 2 matrix using pointers. 4. Write a program to multiply two 2 X 2 matrix using pointers. 			

Ex-11	Practical 11: Program to implement string manipulation functions in C language Write following programs for strings: 1. Write C program to demonstrate string using pointer to pointer or double pointer. 2. Write a program to find length of string using string array. 3. Write a program to copy one string to another using string array. 4. Write a program to concatenate two strings using string array. 5. Write a program to compare two strings using string array. 6. Write a program to find length of string using pointers. 7. Write a program to copy one string to another using pointer. 8. Write a program to concatenate two strings using pointers. 9. Write a program to compare two strings using pointers.			
Ex-12	Practical 12: Program to implement structure and union in C language. Write following programs for structure and union: 1. Write C program to create, declare and initialize structure. 2. Write C program to read and print an employee's detail using structure. 3. Write C program to demonstrate example of nested structure. 4. Write C program to demonstrate example structure pointer (structure with pointer). 5. Write C program to declare, initialize a union, example of union. 6. Write C program to demonstrate example of structure of array. 7. Write C program to show different between structure and union. 8. Write C program to use typedef for creating structure and union.			

Ex-13	<p>Practical 13: Program to implement macro and storage classes in C language</p> <p>Write following programs for strings:</p> <ul style="list-style-type: none"> • Write C program to define the math operator '+' as PLUS, '-' as MINUS, '*' as MULT & '/' as DIVIDE using pre-processor directives and do the operations over variables (x, y) defined on above question like z=x PLUS y. • Write C program to define a macro with one parameter to compute the volume of a sphere. Write a C program using this macro to compute the volume for spheres of radius 5, 10 and 15 meters. • Write C program to define a macro that receives an array and the number of elements in the array as arguments. Write a C program for using this macro to print the elements of the array. • Write C program to illustrate the properties of a static variable. • Write C program to illustrate the properties of an auto variable. • Write C program to illustrate the properties of an extern variable. • Write C program to illustrate the properties of a register variable. 			
Ex-14	<p>Practical 14: Program to perform operations using malloc, calloc, realloc, free and on file handling in C language.</p> <p>Write following programs for strings:</p> <ul style="list-style-type: none"> • Write C program to read file using fgetc(), fgets(), and fscanf() functions. • Write C program to write data into any file using fputc(), gputs(), and fprintf() functions. • Write C program to copy character or binary file. • Write C program to create dynamic array using malloc() function. • Write C program to create dynamic array using calloc() function. • Write C program to create dynamic array and re-size array using realloc() function. 			

Ex-15	Practical 15: Program to perform graphical operations in C language. Write following programs for strings: <ul style="list-style-type: none"> • Write C program to draw line. • Write C program to draw circle. • Write C program to draw rectangle. • Write C program to move circle one location to another on pressing enter key. 			
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