

## Lab Work

1. Write a program to display the area of rectangle.
2. Write a program to calculate area of triangle if base and height are given.
3. Write a program to swap the content of two variables.
4. Write a program to find roots of quadratic equation.
5. Write a C program to calculate following expression:  $5x\sqrt{y^2 + 5}$
6. Write a program that reads three numbers and display middle number.
7. Write a program to input a number and find whether it is exactly divisible by 5 but not by 7.
8. Write a program to read a number and display whether it is positive, negative or zero.
9. Write a program to print Fibonacci series i.e. 0 1 1 2 3 5 8.....
10. Write a program to print 10 terms of the following series using *for* loop 1, 5, 9, 13, .
11. Write a program to find input number is prime or composite.
12. Write a program to check whether given number is Armstrong or not.
13. Write a program to display multiplication table of any given number.
14. Write a program to read a number and display the reverse number.
15. Write a program to display first n even numbers.
16. Write a program to display prime numbers between 100 and 200.
17. Write a menu driven program to perform the following task
  1. To check the given number is odd or even.
  2. To display sum of first n natural number.
  3. To check given number is palindrome or not.
  4. Exit.
18. Write a C program to generate the following output using loop.

```
1 0 1 0 1
0 1 0 1
1 0 1
0 1
1
```
19. Write a program to search an element from 'n' elements in an array.
20. Write a program to sort 'n' elements in an array in ascending order.
21. Write a program to read salaries of n employees and count the number of employees getting salary between 45,000 to 70,000.
22. Write a program to display transpose of given mxn matrix.
23. Write a program to display sum of diagonal elements of 3x3 matrix.
24. Write a program to display sum of each row of given matrix.
25. Write a program to display sum of each column of given matrix.
26. Write a C program to find the sum of two matrix of order m×n.
27. Write a program to input n names and sort them in alphabetical order.

28. Write a program to display whether given string is palindrome or not.
29. Write a program to read line of text from user and count number of vowels, consonants, spaces and digits.
30. Write a program to find the area and circumference of circle by using function.
31. Write a program to find smallest number from the array using function.
32. Write a macro code to display area of circle.
33. Write a recursive program to generate Fibonacci series up to n terms using recursive function.
34. Write a program to calculate the factorial of a given number using recursive function.
35. Write a C program to calculate sum of the natural number up to N number using recursive functions.
36. Write a program to print the following pattern using loop.

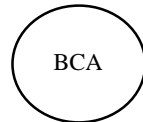
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37. Write a C program to generate following series using function:

$$\text{Sum} = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^n}{n!}$$

38. Write a program to find sum of 10 numbers using pointer.
39. Write a program to sort 'n' numbers in an array in ascending order by using pointer.
40. Write a program to display transpose of mxn matrix by using pointer.
41. Write a program to find the largest and smallest number in a list of N numbers using DMA.
42. Write a program to enter age of n students and count age between 18 and 25 from the array using DMA function.
43. Write a C program using structure that reads the records of students with members roll, name, address and marks and display the record of students who have obtained greater than 250 marks.
44. Write a C program to enter bid, title, price, pages of n book into structure variable called book and sort them in descending order on the basis of their title with use of pointer.
45. Write a C program to store the player name, runs scored, wickets taken of n cricketers using structure along with pointer then arrange the players in order of maximum wickets to minimum wickets they had taken.
46. Write a C program to write some text "Welcome to BCA program" in a file test.txt.

47. Write a C program to copy contents of student.txt file into another file called info.txt.
48. Write a program to store stdno, name and mark of 'n' students in a data file. Display the records in appropriate format reading from the file.
49. Write a C program to accept n numbers from user and store them in odd.txt file (if number is odd) or even.txt file (if number is even) then display odd numbers reading from odd.dat file.
50. Write a program to draw two concentric circles with center (50,50) and radii 75 and 125.
51. Write a program to draw rectangle.
52. Write a C program to generate following output using graphics functions.

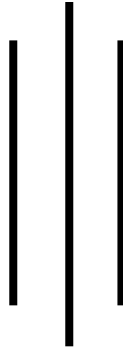


Your lab report to be submitted should include at least the following topics.

1. Title
2. Objective(s)
3. Problem Analysis
4. Coding
5. Output (compilation, debugging & testing)
6. Conclusion.



**Tribhuvan University Faculty of Humanities and Social Science**



**CACS 251 C Programming LAB REPORT**

**Submitted to  
BCA Department  
Birendra Multiplication Campus**

*In partial fulfillment of the requirements for the Bachelors in Computer Application*

**Submitted by**

**Name:**

**Registration Number:**

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Internal Examiner  
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**Title:**

Write a program to display the area of rectangle.

**Objective**

To display the area of rectangle.

**Problem Analysis:**

Here we have to calculate the area of rectangle reading length and breadth from user. Output is to display the area so the output parameter is identified as A. Area of rectangle is the multiplication of its length and breadth.

Input variables	Processing variables/calculations	Output variables	Necessary header files/functions/macros
l(int) b(int)	A=l*b	A(int)	stdio.h printf() scanf()

**Coding**

```
#include<stdio.h>
void main()
{
int l,b,A;
printf("Enter length and breadth of rectangle ");
scanf("%d%d",&l,&b);
A=l*b;
printf("Area of rectangle =%d ",A);
}
```

**Output (compilation, debugging and Testing)**

```
Enter length and breadth of rectangle 4 6
Area of rectangle =24
```

**Conclusion**

The program is focused on calculating Area of rectangle for the given length and breadth. Hence the area of rectangle is calculated and displayed.