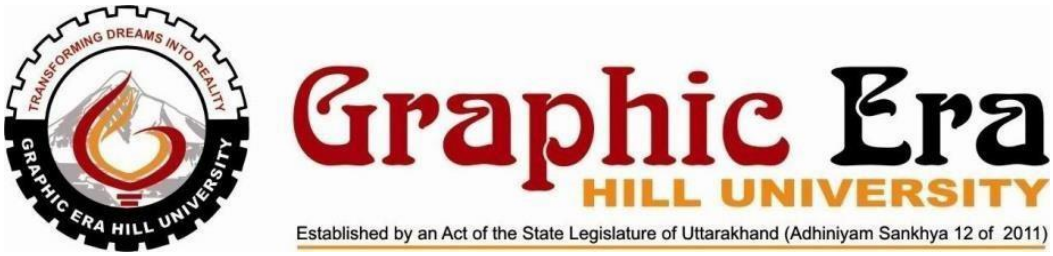

DEHRADUN CAMPUS

PRACTICAL FILE / TERM WORK

CBNST LAB

PMA-502

B.Tech CSE

V

2023-24

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

GRAPHIC ERA HILL UNIVERSITY, DEHRADUN

SUBMITTED TO

Ms. Preeti Chaudhary

ASST. PROFESSOR

DEPARTMENT OF COMPUTER SCIENCE & ENGG.

SUBMITTED BY

NAME: Nilesh Bhanot

Examination Roll No.: 2118851

Course / Sem: B.tech / 5

COLLEGE ROLL NO. 42 **EXAMINATION ROLL NO. 2118851**

Graphic Era
HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)

DEHRADUN CAMPUS

THIS IS TO CERTIFY THAT Mr. Nilesh Bhanot HAS SATISFACTORILY COMPLETED ALL THE EXPERIMENTS IN THE LABORATORY OF THIS COLLEGE. THE COURSE OF THE EXPERIMENTS / TERM WORK PMA-502 IN PARTIAL FULLFILLMENT OF THE REQUIREMENT IN 5 SEMESTER OF B.TECH (CSE) DEGREE COURSE PRESCRIBED BY GRAPHIC ERA HILL UNIVERSITY, DEHRADUN DURING THE YEAR 2023 – 2024.

CONCERNED FACULTY HEAD OF DEPARTMENT

NAME OF EXAMINER:

SIGNATURE OF EXAMINER:

Annexure-A

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Department of Computer Science & Application

Lab Details

Name of the Lab: - CBNST Lab

Lab Code: - PMA-502

Subject Credit: - 2

Course: - B.Tech

Branch: - CSE

Semester: - V

Section: - A

Number of students enrolled: -

Name of the Faculty: - Ms. Preeti Chaudhary

Name of Lab Instructor: -

Lab Number:-8

Lab Time Table

Day	Lecture Number	Timing

Annexure- B

Graphic Era HILL UNIVERSITY

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Department of Computer Science & Application

List of Practical's

Subject Code: PMA-502 **Subject Name: CBNST Lab**

Course : B.Tech CSE **Branch & Sem:-V**

1.	Write a program in "C" Language to deduce error (Absolute Error, Relative Error and Percentage Error) involved in polynomial equation.
2.	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Bisection Method.
3.	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Regula Falsi Method.
4.	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Newton Raphson Method.
5.	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Iteration Method.
6.	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Secant Method.
7.	Write a program in "C" Language to find the solution of Linear Equation using Gauss Elimination Method.
8.	Write a program in "C" Language to find the solution of Linear Equation using Gauss Jordan Method.
9.	Write a program in "C" Language to find the solution of Linear Equation using Gauss Seidel Method.
10.	Write a program in "C" Language to interpolate numerically using Newton Forward Difference Method.
11.	Write a program in "C" Language to interpolate numerically using Newton Backward Difference Method.
12.	Write a program in "C" Language to interpolate numerically using Lagrange's Method.
13.	Write a program in "C" Language to integrate numerically using Trapezoidal Rule.

14.	Write a program in “C” Language to integrate numerically using Simpson’s 1/3 Rule.
15.	Write a program in “C” Language to integrate numerically using Simpson’s 3/8 Rule.
16.	Write a program in “C” Language to find the numerical solution of ordinary differential equations by Euler’s Method.
17.	Write a program in “C” Language to find the numerical solution of ordinary differential equations by Runge Kutta (Order 4) Method.
18.	Write a program in “C” Language for Linear Curve Fitting.
19.	Write a program in “C” Language for Parabolic Curve Fitting.
20.	Write a program in “C” Language for finding out the Regression Lines.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
STUDENT LAB REPORT SHEET
CBNST LAB (PMA-502)

Name of Student …….. Mo. No……..

Address Permanent ……..……..

Father's Name ……..…… Mo No ……

Mother's Name …… Mo No……..……..

Section ……Branch……Semester…….. Class Roll No……..

Local Address……Email……. ……Grade A B C

Marks 5 3 1

S. No.	Name of the Experiment	D.O.P.	D.O.S	Grade (Viva)	Grade (Report File)	Total Marks (out of 10)	Student's Signature	Teacher's Signature
1	Write a program in "C" Language to deduce error (Absolute Error, Relative Error and Percentage Error) involved in polynomial equation.							
2	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Bisection Method.							
3	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Regula Falsi Method.							
4	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Newton Raphson Method.							
5	Write a program in "C" Language to find out the root of the Algebraic and Transcendental equations using Iteration Method.							

6	Write a program in “C” Language to find out the root of the Algebraic and Transcendental equations using Secant Method.							
7	Write a program in “C” Language to find the solution of Linear Equation using Gauss Elimination Method.							
8	Write a program in “C” Language to find the solution of Linear Equation using Gauss Jordan Method.							
9	Write a program in “C” Language to find the solution of Linear Equation using Gauss Seidel Method.							
10	Write a program in “C” Language to interpolate numerically using Newton Forward Difference Method.							
11	Write a program in “C” Language to interpolate numerically using Newton Backward Difference Method.							
12	Write a program in “C” Language to interpolate numerically using Lagrange’s Method.							
13	Write a program in “C” Language to integrate numerically using Trapezoidal Rule.							
14	Write a program in “C” Language to integrate numerically using Simpson’s 1/3 Rule.							
15	Write a program in “C” Language to integrate numerically using Simpson’s 3/8 Rule.							

16	Write a program in "C" Language to find the numerical solution of ordinary differential equations by Euler's Method.							
17	Write a program in "C" Language to find the numerical solution of ordinary differential equations by Runge Kutta (Order 4) Method.							
18	Write a program in "C" Language for Linear Curve Fitting.							
19	Write a program in "C" Language for Parabolic Curve Fitting.							
20	Write a program in "C" Language for finding out the Regression Lines.							

Total No of Practical allotted: ……

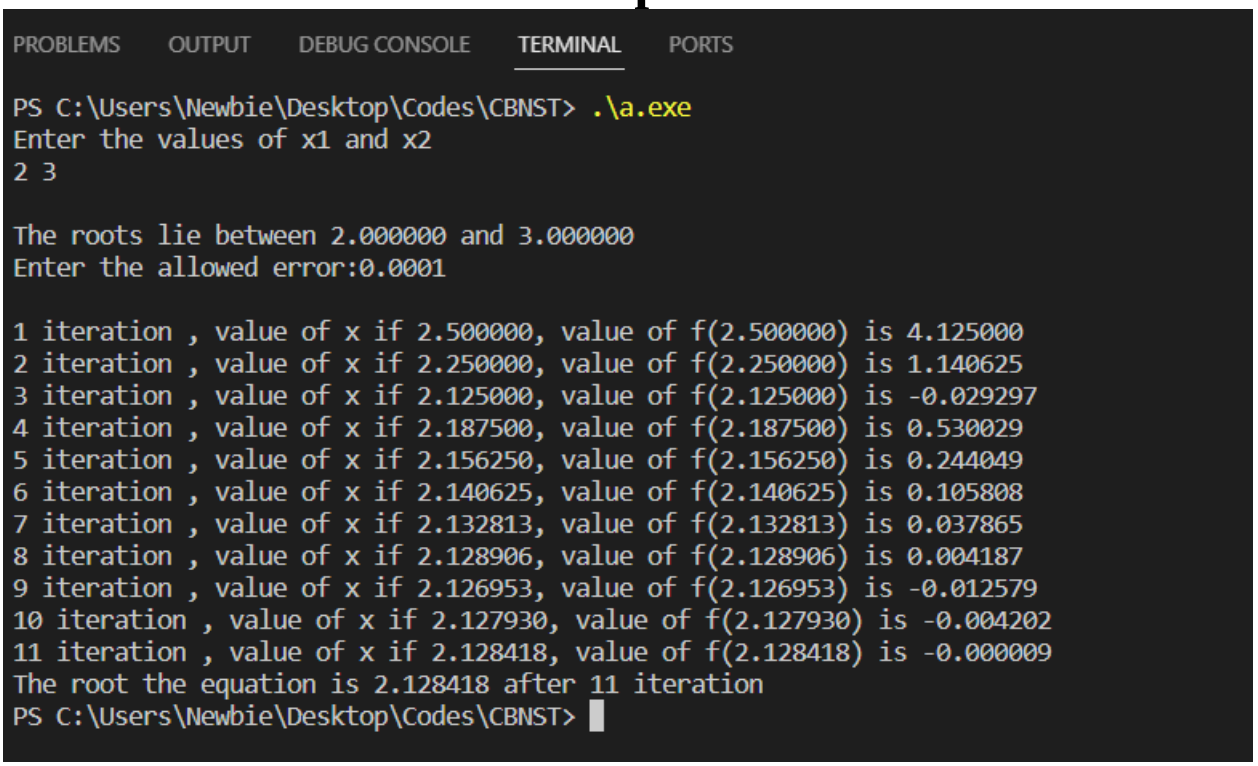
Total No of Practical completed: …….

Percentage Attendance of Practical: ……

Output


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\Newbie\Desktop\Codes\CBNST> cd "c:\Users\Newbie\Desktop\Codes\CBNST\" ; if ($?) { gcc Practical1.c -o Practical1 } ; if ($?) { .\Practical1 }
3.333333 3.33
Absolute Error: 0.003333
Relative Error: 0.001000
Percentage Error: 0.099990
PS C:\Users\Newbie\Desktop\Codes\CBNST>

Output


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\Newbie\Desktop\Codes\CBNST> .\a.exe
Enter the values of x1 and x2
2 3
The roots lie between 2.000000 and 3.000000
Enter the allowed error:0.0001
1 iteration , value of x if 2.500000, value of f(2.500000) is 4.125000
2 iteration , value of x if 2.250000, value of f(2.250000) is 1.140625
3 iteration , value of x if 2.125000, value of f(2.125000) is -0.029297
4 iteration , value of x if 2.187500, value of f(2.187500) is 0.530029
5 iteration , value of x if 2.156250, value of f(2.156250) is 0.244049
6 iteration , value of x if 2.140625, value of f(2.140625) is 0.105808
7 iteration , value of x if 2.132813, value of f(2.132813) is 0.037865
8 iteration , value of x if 2.128906, value of f(2.128906) is 0.004187
9 iteration , value of x if 2.126953, value of f(2.126953) is -0.012579
10 iteration , value of x if 2.127930, value of f(2.127930) is -0.004202
11 iteration , value of x if 2.128418, value of f(2.128418) is -0.000009
The root the equation is 2.128418 after 11 iteration
PS C:\Users\Newbie\Desktop\Codes\CBNST>