- Tutorials
  - Python Programming
  - C Programming
  - Numerical Methods
  - Dart Language
  - Computer Basics
  - Flutter
  - Linux
  - Deep Learning
- Examples
  - C Programming Examples
  - Python Programming Examples
- Online Calculator

- Newton Raphson Method C++ Program
- Newton Raphson Method Python Program
- Newton-Raphson MATLAB
- Features of Newton Raphson Method
- Newton Raphson Advantages
- Newton Raphson Disadvantages
- Newton Raphson Method Online Calculator
- Secant Method Algorithm
- Secant Method Pseudocode
- Secant Method C Program
- Secant Method C++ Program with Output
- Secant Method Python Program with Output
- Secant Method Online Calculator
- Fixed Point Iteration (Iterative) Method Algorithm
- Fixed Point Iteration (Iterative) Method Pseudocode
- Fixed Point Iteration (Iterative) Method C Program
- Fixed Point Iteration (Iterative) Python Program
- Fixed Point Iteration (Iterative) Method C++ Program
- Fixed Point Iteration (Iterative) Method Online Calculator
- Gauss Elimination Method Algorithm
- Gauss Elimination Method Pseudocode
- Gauss Elimination C Program
- Gauss Elimination C++ Program with Output
- Gauss Elimination Method Python Program with Output
- Gauss Elimination Method Online Calculator
- Gauss Jordan Method Algorithm
- Gauss Jordan Method Pseudocode
- Gauss Jordan Method C Program
- Gauss Jordan Method C++ Program
- Gauss Jordan Method Python Program (With Output)
- Gauss Jordan Method Online Calculator
- Matrix Inverse Using Gauss Jordan Method Algorithm
- Matrix Inverse Using Gauss Jordan Method Pseudocode
- Matrix Inverse Using Gauss Jordan C Program
- Matrix Inverse Using Gauss Jordan C++ Program
- Python Program to Inverse Matrix Using Gauss Jordan
- Matrix Inverse Online Calculator
- Power Method (Largest Eigen Value and Vector) Algorithm
- Power Method (Largest Eigen Value and Vector) Pseudocode
- Power Method (Largest Eigen Value and Vector) C Program
- Power Method (Largest Eigen Value and Vector) C++ Program
- Power Method (Largest Eigen Value & Vector) Python Program
- Jacobi Iteration Method Algorithm
- Jacobi Iteration Method C Program
- Jacobi Iteration Method C++ Program with Output
- Python Program for Jacobi Iteration
- Gauss Seidel Iteration Method Algorithm
- Gauss Seidel Iteration Method C Program
- Gauss Seidel Iteration Method C++ Program
- Python Program for Gauss Seidel Iteration Method
- Python Program for Successive Over Relaxation
- Forward Difference Table Using C
- Forward Difference Table Using C++
- Python Program to Generate Forward Difference Table
- Python Program to Generate Backward Difference Table
- Backward Difference Table Using C
- Backward Difference Table Using C++
- Lagrange Interpolation Method Algorithm
- Lagrange Interpolation Method Pseudocode
- Lagrange Interpolation Method C Program
- Lagrange Interpolation Method C++ Program
- Lagrange Interpolation in Python
- Linear Interpolation Method Algorithm
- Linear Interpolation Method Pseudocode
- Linear Interpolation Method C Program
- Linear Interpolation Method C++ Program with Output
- Linear Interpolation Method Python Program
- Linear Regression Method Algorithm
- Linear Regression Method Pseudocode
- Linear Regression Method C Program
- Linear Regression Method C++ Program with Output
- Linear Regression Python
- Curve Fitting of Type $y=ax^b$ Algorithm
- Curve Fitting of Type $y=ax^b$ Pseudocode

C Program for Lagrange Interpolation Method (with Output)

Learn more

Table of Contents

This program implements Lagrange Interpolation Formula in C Programming Language.

In this C program, `x` and `y` are two array for storing x data and y data respectively. `xp` is interpolation point given by user and

```
#include<stdio.h>
#include<conio.h>

void main()
{
          float x[100], y[100], xp, yp=0, p;
          int i,j,n;
          clrscr();
          /* Input Section */
          printf("Enter number of data: ");
          scanf("%d", &n);
          printf("Enter data:\n");
          for(i=1;i<=n;i++)
          {
                    printf("x[%d] = ", i);
                    scanf("%f", &x[i]);
                    printf("y[%d] = ", i);
                    scanf("%f", &y[i]);
          }
          printf("Enter interpolation point: ");
          scanf("%f", &xp);
          /* Implementing Lagrange Interpolation */
          for(i=1;i<=n;i++)
          {
                    p=1;
                    for(j=1;j<=n;j++)
                    {
                              if(i!=j)
                              {
                                        p = p* (xp - x[j])/(x[i] - x[j]);
                              }
                    }
                    yp = yp + p * y[i];
          }
          printf("Interpolated value at %.3f is %.3f.", xp, yp);
          getch();
}
```

C Program Output: Lagrange Interpolation

```
Enter number of data: 5 ↲
Enter data:
x[1] = 5 ↲
y[1] = 150 ↲
x[2] = 7 ↲
y[2] = 392 ↲
x[3] = 11 ↲
y[3] = 1452 ↲
x[4] = 13 ↲
y[4] = 2366 ↲
x[5] = 17 ↲
y[5] = 5202 ↲
```

Recommended Readings

1. Lagrange Interpolation Method Algorithm
2. Lagrange Interpolation Method Pseudocode
3. C Program for Lagrange Interpolation Method
4. C++ Program for Lagrange Interpolation Method
5. Python Program for Lagrange Interpolation Method

State-Of-The-Art Technology
MS in Computer Science
Earn A Master's Degree In Computer Science | Take The First Step And Learn More
discover.clarkson.edu
OPEN

- Bisection Method
  - Algorithm for Bisection Method
  - Pseudocode for Bisection Method
  - C Program for Bisection Method
  - C++ Program for Bisection Method
  - MATLAB Program for Bisection Method
  - Python Program for Bisection Method
  - Bisection Method Advantages
  - Bisection Method Disadvantages
  - Bisection Method Features
  - Convergence of Bisection Method
  - Bisection Method Online Calculator
- Regula Falsi (False Position) Method
  - Algorithm for Regula Falsi (False Position Method)
  - Pseudocode for Regula Falsi (False Position) Method
  - Features of Regula Falsi
  - Falsi Position Advantages
  - False Position Disadvantages
  - C Program for Regula False (False Position) Method
  - C++ Program for Regula False (False Position) Method
  - MATLAB Program for Regula False (False Position) Method
  - Python Program for Regula False (False Position) Method
  - Regula Falsi or False Position Method Online Calculator
- Newton Raphson Method
  - Newton Raphson (NR) Method Algorithm
  - Newton Raphson (NR) Method Pseudocode
  - Newton Raphson Method C Program
  - Newton Raphson Method C++ Program
  - Newton Raphson Method Python Program
  - Newton-Raphson MATLAB
  - Features of Newton Raphson Method
  - Newton Raphson Advantages
  - Newton Raphson Disadvantages
  - Newton Raphson Method Online Calculator
- Secant Method
  - Secant Method Algorithm
  - Secant Method Pseudocode
  - Secant Method C Program
  - Secant Method C++ Program with Output
  - Secant Method Python Program with Output
  - Secant Method Online Calculator
- Fixed Point Iteration
  - Fixed Point Iteration (Iterative) Method Algorithm

- Trapezoidal Method for Numerical Integration Pseudocode
- Trapezoidal Method C Program
- Trapezoidal Method C++ Program
- Trapezoidal Method Python
- Simpson's 1/3 Rule Algorithm
- Simpson's 1/3 Rule Pseudocode
- Simpson's 1/3 Rule C Program
- Simpson's 1/3 Rule C++ Program
- Simpson's 1/3 Rule Python
- Simpson's 3/8 Rule Algorithm
- Simpson's 3/8 Rule Pseudocode
- Simpson's 3/8 Rule C Program
- Simpson's 3/8 Rule Python
- Simpson's 3/8 Rule C++ Program

- Ordinary Differential Equation
  - Euler's Method Algorithm
  - Euler's Method Pseudocode
  - Euler's Method C Program
  - Euler's Method C++ Program
  - Euler's Method Python
  - RK4 Method Python
  - Runge Kutta (RK) Algorithm
  - Runge Kutta (RK) Pseudocode
  - Runge Kutta (RK) C Program
  - Runge Kutta (RK) C++ Program

Eco Retreat Odisha

Eco Retr
Odisha

Open

Home and Kitchen Appliances

Bosch One Home Appliances

Bosch Shop

About Us

Codesansar is online platform that provides tutorials and examples on popular programming languages.

Links

- About Us
- Contact Us
- Privacy Policy
- Cookies Policy

Social Media

- Facebook
- Twitter
- Youtube
- Github
- Instagram


NATURAL
DIAMONDS
SAY IT WITH
DIAMONDS