-:- Source Code :- Lagrange's Method

```
#include <iostream>
using namespace std;

int main(){
    //Taking points as input
    int n;
    cout<<" Enter the number of points given: ";
    cin >> n;

    float x[n], y[n];
    for(int i=0; i<n; i++){
        cout<<" Enter x["<<i<<"] y["<<i<<"]: ";
        cin >> x[i] >> y[i];
    }

    float xp;
    cout<<" Enter the value of x at which y(x) is to
        be evaluated: ";
    cin >> xp;

    //Main logic
    float sum=0;
    for(int i=0; i<n; i++){
        float product=1;
        for(int j=0; j<n; j++){
            if(i!=j) product *= (xp-x[j])/(x[i]-x[j]);
        }
        sum += y[i] * product;
    }

    // Displaying result

    cout<<endl<<"RESULT: x["<<xp<<"]= "<<sum<<endl;
    return 0;
}
```

÷-Source code :- RK 2 Method

```
#include <iostream>
using namespace std;
float f(float x, float y) {
    return x*x - 2*x +5; // Function of slope
}
int main() {
  //Taking user inputs
   float x0, y0, xn;
   int n;

   cout << " Enter x0, y0, xn and n: ";

   Cin >> x0>>y0>>xn>> n;

   //Setting h= interval
   Const float h= (xn-x0)/n;

   cout<< "The points on the required curve are:" << endl;
    cout << "(" << x0 << "," << y0 << ")\n";

   for( int i=0; i<n; i++) {
        float m1 = f(x0, y0);
        float m2 = f(x0+h, y0+m1*h);
        float m = (m1+m2)/2;
        y0 += h*m;
        x0+= h;
        cout<< "(" << x0 << "," << y0 << ")\n";
   }
   return 0;
}
```

Source Code :- RK 4

```
#include <iostream>
using namespace std;

float f( float x, float y) {
    return x*x - 2*x +5;
}

int main () {
    float x0, y0, xn;
    int n;
    cout<< " Enter
    cin >> x0 >> y0 >> xn >> n;
    const float h = (xn - x0)/n;
    cout << "The points on the required curve are : " << endl;
    cout<< "(" << x0<< ", " <<y0<< ")\n";
    for( int i=0; i<n; i++){
        float m1= f(x0, y0);
        float m2= f(x0+h/2, y0+m1*h/2);
        float m3 = f(x0+h/2, y0+m2*h/2);
        float m4 = f(x0+h, y0+ m3*h);
        float m = (m1+ 2*m2 + 2*m3+ m4)/6;
        y0 += h*m;
        x0 += h;
        cout<<"(" <<x0 <<", " <<y0 <<")\n";
    }
    return 0;
}
```