Project 3: Problem Statement

A Job Ready Bootcamp in C++, DSA and IOT

MySirG

Create C Library On Analytic Geometry ⚙️

Problem 1:

Suppose there are two roads,

Road 1: ABC Road, represented by equation 5x + y - 3 = 0

Road 2: XYZ Road, represented by equation 2x + 3y + 1 = 0

These two roads meet each other at a chowk, called 123 Chowk.

Determine at which angle , these two roads meet each other at chowk.

What you have to do :

Create a Program which determines angle at which these roads meet at 123 Chowk.

```
#include<stdio.h>
#include<conio.h>
void main(){

  double angle_at_chowk;
  /* We all know that, there is no function named find_angle exists, so you have to create a
     library for that. */

  angle_at_chowk = find_angle(parameter1, parameter2,......);
  printf("Angle at which these roads meets at 123 Chowk: %lf\n",angle_at_chowk);
}
```

Problem 2:

Saurabh Sir stays in Bhopal,

Prateek Sir stays in Bangalore.

Using GPS:

Latitude and Longitude values of Bhopal as 23.259933 N, 77.412613 E.

Latitude and Longitude values of Bangalore as 12.9716 N, 77.5946 E.
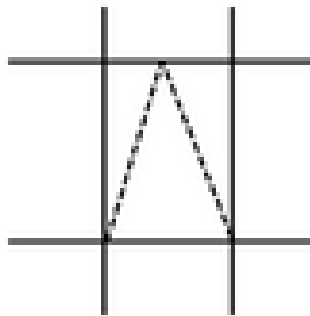
Calculate distance between Saurabh Sir and Prateek Sir.

```
#include<stdio.h>
#include<conio.h>
void main(){
    double distance;

    /* We all know that, there is no function named find_distance exists, so you have to
       include this function in your library.*/
    distance = find_distance(parameter1, parameter2,.......);
    printf("Distance Between Saurabh Sir and Prateek Sir: %lf\n",distance);

}
```

Problem 3:

Looking at an above image, actually that image is zoomed up version of pdf file.

As we see there is 'A' shaped character, it has three vertices which has coordinates

(20.077,
11.598) , (26.526, 90.138) , (23.674, 32.579).

We have to cover the area under 'A' shaped character and colour it black.
Calculate area under 'A' shaped character

```c
#include<stdio.h>
#include<conio.h>
void main(){
double area;
/* We all know that, there is no function named find_distance exists, so you have to
include this function in your library.
*/
area_under_A = find_area(parameter1, parameter2,.......);
printf("Area to be coloured black: %lf\n",area_under_A);
}
```

Create all these functions and make library out of it.

What we expect :
Your folder should contain:

1. **Library.c : All function definition should be included in this file.**

2. **Library.h : All function declarations should be included in this file.**

3. **Problem1.c : Problem Statement 1**

4. **Problem2.c : Problem Statement 2**

5. **Problem3.c : Problem Statement 3**

6. **Project should be uploaded on Github**

💡 Created By @Aditya Chaudhary