PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS TEKNOLOGI INFORMASI
UNIVERSITAS KRISTEN SATYA WACANA

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PORTOFOLIO TUGAS GRAFIKA KOMPUTER
TUGAS 05 PERPOTONGAN GARIS

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Kode Dosen : 67977

1. Konsep dalam Grafik Inisial Nama dan Perhitungan Manual
(bisa ditulis tangan lalu di scan/cam-scan atau langsung di tulis di bawah ini)

```
Mencari Titik Potong A
========================================
Mencari persamaan garis AB:
M1 = (5.000000 - 1.000000)/(3.500000 - 1.000000)
M1 = 1.600000
C1 = 1.000000 - (1.600000 * 1.000000)
C1 = -0.600000

Mencari persamaan garis CD:
M2 = (5.000000 - 1.000000)/(2.500000 - 5.000000)
M2 = -1.600000
C2 = 1.000000 - (-1.600000 * 5.000000)
C2 = 9.000000

Mencari titik potong ABCD:
px = (9.000000 - -0.600000)/(1.600000 - -1.600000)
px = 3.000000
py = (1.600000 * 3.000000) + -0.600000
py = 4.200000

(py,py) = (3.000000, 4.200000)

Mencari persamaan garis AB:
M1 = (5.000000 - 1.000000)/(3.500000 - 1.000000)
M1 = 1.600000
C1 = 1.000000 - (1.600000 * 1.000000)
C1 = -0.600000

Mencari persamaan garis CD:
M2 = (3.000000 - 3.000000)/(4.500000 - 1.500000)
M2 = 0.000000
C2 = 3.000000 - (0.000000 * 1.500000)
C2 = 3.000000
```

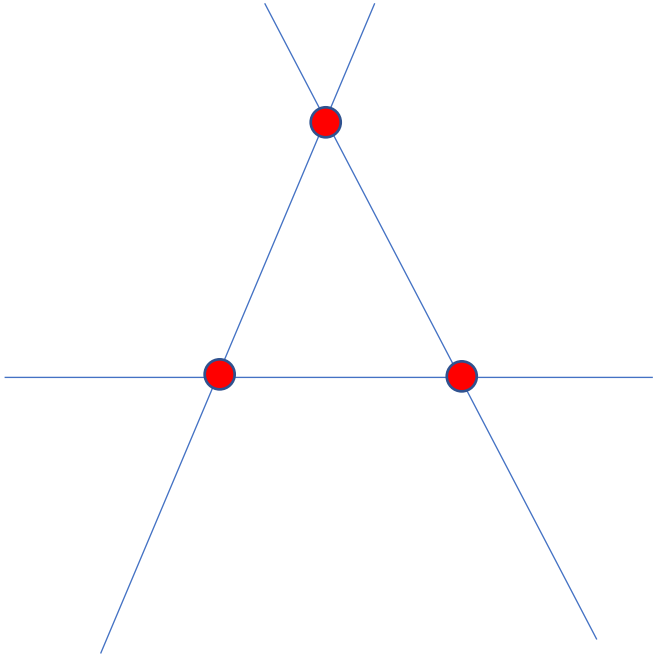
```
Mencari titik potong ABEF:
px = (3.000000 - -0.600000)/(1.600000 - 0.000000)
px = 2.250000
py = (1.600000 * 2.250000) + -0.600000
py = 3.000000
(py,py) = (2.250000, 3.000000)

Mencari persamaan garis CD:
M1 = (5.000000 - 1.000000)/(2.500000 - 5.000000)
M1 = -1.600000
C1 = 1.000000 - (-1.600000 * 5.000000)
C1 = 9.000000

Mencari persamaan garis EF:
M2 = (3.000000 - 3.000000)/(4.500000 - 1.500000)
M2 = 0.000000
C2 = 3.000000 - (0.000000 * 1.500000)
C2 = 3.000000

Mencari titik potong CDEF:
px = (3.000000 - 9.000000)/(-1.600000 - 0.000000)
px = 3.750000
py = (-1.600000 * 3.750000) + 9.000000
py = 3.000000
(py,py) = (3.750000, 3.000000)


Nilai titik potong:
=======================
1. 3.000000,4.200000
2. 2.250000,3.000000
3. 3.750000,3.000000
=======================
```



Mencari Titik Potong F
==========
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 - 8.010000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 8.010000)
C1 = -3198.926758

Mencari persamaan garis CD:
M2 = (4.800000 - 4.800000)/(9.500000 - 6.500000)
M2 = 0.000000
C2 = 4.800000 - (0.000000 * 6.500000)
C2 = 4.800000

Mencari titik potong ABCD:
px = (4.800000 - -3198.926758)/(399.990845 - 0.000000)
px = 8.009501
py = (399.990845 * 8.009501) + -3198.926758
py = 4.800049

(py,py) = (8.009501, 4.800049)

Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 - 8.010000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 8.010000)
C1 = -3198.926758

Mencari persamaan garis AB:
M1 = (3.500000 - 3.500000)/(8.500000 - 7.500000)
M1 = 0.000000
C1 = 3.500000 - (0.000000 * 7.500000)
C1 = 3.500000

Mencari titik potong ABEF:
px = (3.500000 - -3198.926758)/(399.990845 - 0.000000)
px = 8.006250
py = (399.990845 * 8.006250) + -3198.926758
py = 3.500000

(py,py) = (8.006250, 3.500000)

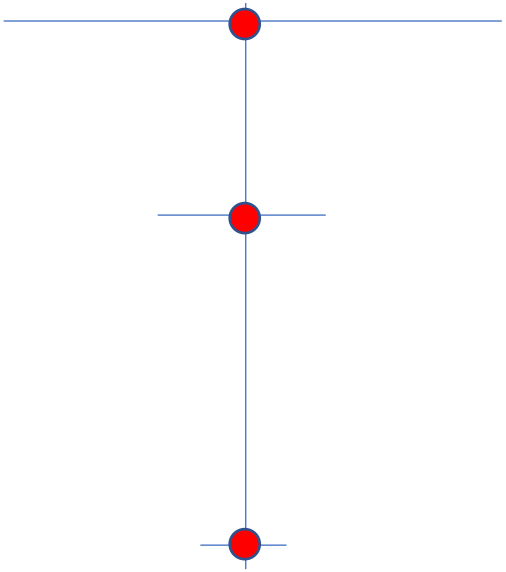
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 - 8.010000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 8.010000)
C1 = -3198.926758

Mencari persamaan garis GH:
M1 = (1.200000 - 1.200000)/(8.250000 - 7.750000)
M1 = 0.000000
C1 = 1.200000 - (0.000000 * 7.750000)
C1 = 1.200000

Mencari titik potong ABGH:
px = (1.200000 - -3198.926758)/(399.990845 - 0.000000)
px = 8.000500
py = (399.990845 * 8.000500) + -3198.926758
py = 1.199951

(py,py) = (8.000500, 1.199951)

Nilai titik potong:
==========
1. 8.009501,4.800049
2. 8.006250,3.500000
3. 8.000500,1.199951
==========



Mencari Titik Potong I
==========
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis CD:
M2 = (4.750000 - 4.750000)/(12.750000 - 12.250000)
M2 = 0.000000
C2 = 4.750000 - (0.000000 * 12.250000)
C2 = 4.750000

Mencari titik potong ABCD:
px = (4.750000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.509376
py = (399.990845 * 12.509376) + -4998.885742
py = 4.750000

(py,py) = (12.509376, 4.750000)

Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis AB:
M1 = (3.000000 - 3.000000)/(12.780000 - 12.280000)
M1 = 0.000000
C1 = 3.000000 - (0.000000 * 12.280000)
C1 = 3.000000

Mencari titik potong ABEF:
px = (3.000000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.505000
py = (399.990845 * 12.505000) + -4998.885742
py = 3.000000

(py,py) = (12.505000, 3.000000)

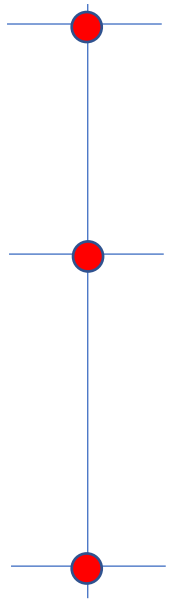
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis GH:
M1 = (1.250000 - 1.250000)/(12.750000 - 12.250000)
M1 = 0.000000
C1 = 1.250000 - (0.000000 * 12.250000)
C1 = 1.250000

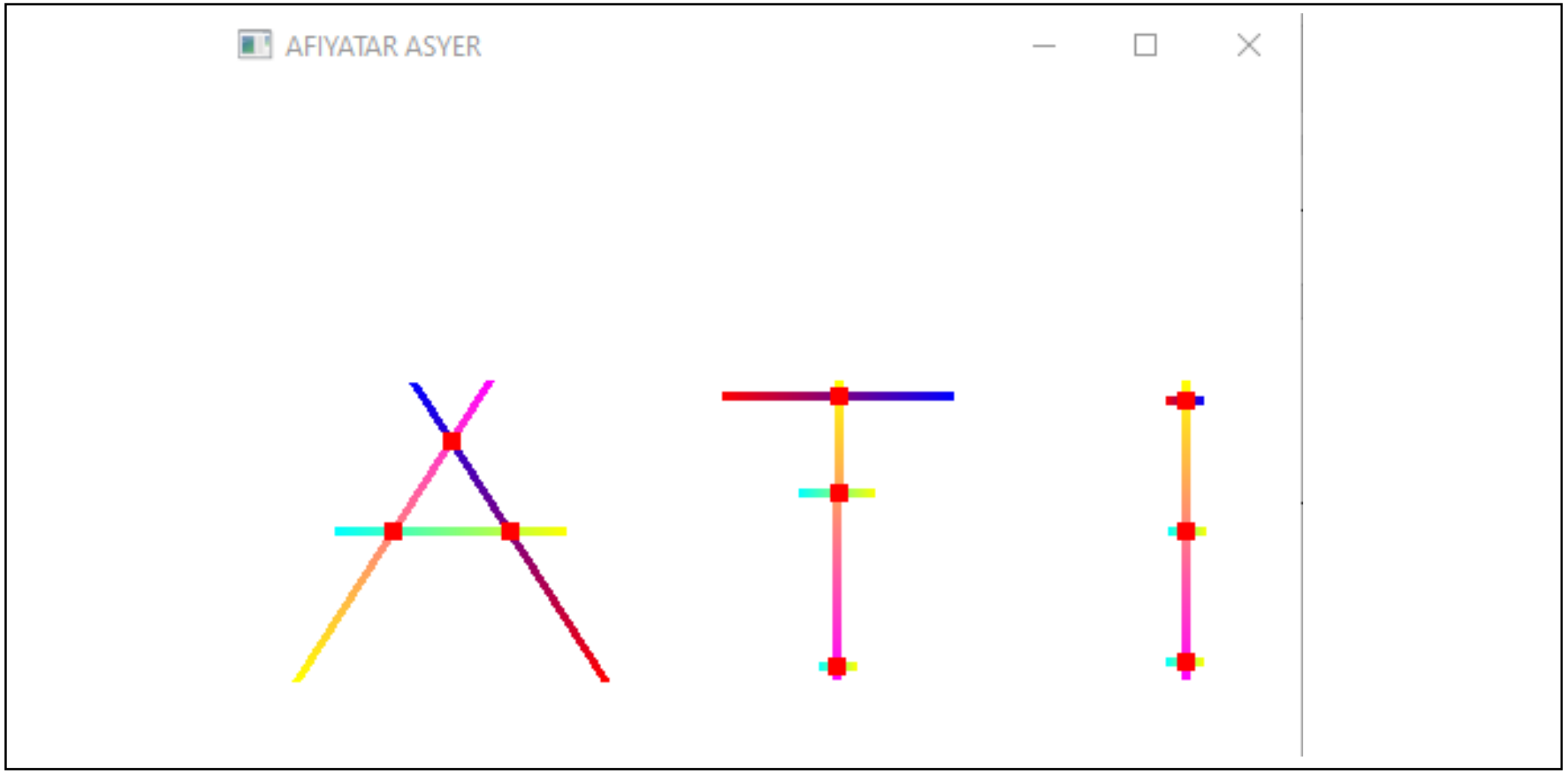
Mencari titik potong ABGH:
px = (1.250000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.500626
py = (399.990845 * 12.500626) + -4998.885742
py = 1.250000

(py,py) = (12.500626, 1.250000)

Nilai titik potong:
==========
1. 12.509376,4.750000
2. 12.505000,3.000000
3. 12.500626,1.250000
==========



2. **Screenshot Hasil Program**



3. Kode Program dan Penjelasan

Kode Program **Diketik rapi dengan font `Courier New, 10pt`**	**Penjelasan Coding hanya di bagian perpotongan garis**

<pre>/*
 * GLUT Shapes Demo
 *
 * Written by Nigel Stewart November 2003
 *
 * This program is test harness for the sphere, cone
 * and torus shapes in GLUT.
 *
 * Spinning wireframe and smooth shaded shapes are
 * displayed until the ESC or q key is pressed. The
 * number of geometry stacks and slices can be adjusted
 * using the + and - keys.
 */#include<windows.h>
#include <GL/glut.h>
#include <stdlib.h>
#include <stdio.h>
 	
void rumusA(float ax, float ay, float bx, float by, float cx, float cy, float dx,
float dy,float ex, float ey,float fx, float fy);
void rumusFI(float ax, float ay, float bx, float by, float cx, float cy, float dx,
float dy,float ex, float ey,float fx, float fy, float gx, float gy, float hx,
float hy);
void myInit(void)
 {
    glClearColor(1.0,1.0,1.0,0.0);
    glColor3f(0.0f, 0.0f, 0.0f);
      glPointSize(4.0);
      glMatrixMode(GL_PROJECTION);
      glLoadIdentity();
      gluOrtho2D(0.0, 14.0, 0.0, 9.0);
}
 	
void Display(void)
{
      glClear(GL_COLOR_BUFFER_BIT);
    system("cls");
    printf("RUMUS:\n");
    printf("==\n");</pre>
	Pada bagian coding ini digunakan fungsi panggil dengan setiap titik yang telah dibuat dengan tipe data float atau desimal, pada setiap titiknya nanti akan ditentukan dan diisi dengan nilai yang sudah ditentukan
	
	Fungsi panggil antara lain:
	
	• Void A
	• Void FI
	
	Penggunaan canvas digunakan sebesar 14 px width, 9 px hight.

```
    printf("m1 = (by-ay)/(bx-ax) \nc1 = ay - (m1*ax) \nm2 = (dy-cy)/(dx-cx) \nc2 =
cy - (m2*cx)\npx = (c2-c1)/(m1-m2)\npy = (m1*px)+c1;\n");
    printf("=================================================\n");


    printf("Mencari Titik Potong A\n=========================================\n");
    rumusA(1,1,3.5,5,5,1,2.5,5,1.5,3,4.5,3);
    printf("\n\n\n");
    printf("Mencari Titik Potong F\n=========================================\n");
    rumusFI(8.01,5,8,1,     6.5,4.8,9.5,4.8,    7.5,3.5,8.5,3.5,
7.75,1.2,8.25,1.2);
    printf("\n\n\n");
    printf("Mencari Titik Potong I\n=========================================\n");
    rumusFI(12.51,5,12.5,1,   12.25,4.75,12.75,4.75,  12.28,3,12.78,3,
12.25,1.25,12.75,1.25);


    glFlush();
      glutSwapBuffers();
}

main(int argc, char** argv)
{
      glutInit(&argc, argv);
      glutInitDisplayMode(GLUT_SINGLE| GLUT_RGB);
      glutInitWindowSize(480,300);
      glutInitWindowPosition(350,150);
      glutCreateWindow("AFIYATAR ASYER");
      glutDisplayFunc(Display);
      myInit();
      glutMainLoop();
}
void rumusA(float ax, float ay, float bx, float by, float cx, float cy, float dx,
float dy,float ex, float ey,float fx, float fy){

      float m1,c1,m2,c2,px,py,m3,c3,m4,c4,m5,c5,m6,c6,px1,py1,px2,py2;
    glLineWidth(4.0);
    glBegin(GL_LINES);
        glColor3f(1,1,0);
        glVertex2f(ax,ay);
        glColor3f(1,0,1);
        glVertex2f(bx,by);

        glColor3f(1,0,0);
        glVertex2f(cx,cy);
        glColor3f(0,0,1);
        glVertex2f(dx,dy);
```

Merupakan method dengan fungsi panggil dan setiap angka yang dimasukkan akan dijadikan titik kordinat

Digunakan Untuk rumus

Merupakan pembuatan garis dengan 2 titik yang akan dihubungkan nanti lal setiap titik akan diberikan warna masing-masinga dengan warna yang telah ditentukan. Ketika titik telah dibuat maka garis akan langsing terbentuk dengan catatan ada 2 titik.

```
        glColor3f(0,1,1);
        glVertex2f(ex,ey);
        glColor3f(1,1,0);
        glVertex2f(fx,fy);
    glEnd();

    //menentukan persamaan garis
    // TITIK AB
    printf("Mencari persamaan garis AB:\n");
    m1 = (by-ay)/(bx-ax);
    c1 = ay - (m1*ax);
    printf("M1 = (%f - %f)/(%f - %f)\n",by,ay,bx,ax);
    printf("M1 = %f\n",m1);
    printf("C1 = %f - (%f * %f)\n",ay,m1,ax);
    printf("C1 = %f\n\n",c1);

    printf("Mencari persamaan garis CD:\n");
    m2 = (dy-cy)/(dx-cx);
    c2 = cy - (m2*cx);
    printf("M2 = (%f - %f)/(%f - %f)\n",dy,cy,dx,cx);
    printf("M2 = %f\n",m2);
    printf("C2 = %f - (%f * %f)\n",cy,m2,cx);
    printf("C2 = %f\n\n",c2);


    printf("Mencari titik potong ABCD:\n");
    px = (c2-c1)/(m1-m2);
    py = (m1*px)+c1;
    printf("px = (%f - %f)/(%f - %f)\n",c2,c1,m1,m2);
    printf("px = %f\n",px);
    printf("py = (%f * %f) + %f\n",m1,px,c1);
    printf("py = %f\n\n",py);
    printf("(py,py) = (%f, %f)\n\n",px,py);

//=======================================

    printf("Mencari persamaan garis AB:\n");
    m3 = (by-ay)/(bx-ax);
    c3 = ay - (m3*ax);
    printf("M1 = (%f - %f)/(%f - %f)\n",by,ay,bx,ax);
    printf("M1 = %f\n",m3);
    printf("C1 = %f - (%f * %f)\n",ay,m3,ax);
    printf("C1 = %f\n\n",c3);

    printf("Mencari persamaan garis CD:\n");
    m4 = (fy-ey)/(fx-ex);
```

Untuk rumus mencari persamaan garis adalah disini sebagai contoh garis ax,ay dan bx,by:

```
m1 = (by-ay)/(bx-ax);
c1 = ay - (m1*ax);
```

dimana untuk mencari m1 adalah dengan mengurangkan titik lalu akan dibagi **(by-ay)/(bx-ax)** sebagai contoh. Dimana setelah didapatkan **m1** akan dicari nilai c1 dengan rumus **ay - (m1*ax)** sehingga didapat nilai **c1**
(**Rumus diatas berlaku untuk satu garis yaitu 2 titik**)

Kemudian dicari lagi untuk garis ke 2 denganan rumus yang sama:

```
m2 = (dy-cy)/(dx-cx);
c2 = cy - (m2*cx);
```

Setelah didapat m1,m2,c1,c2. Kemudian untuk mencari titik perpotongan garis adalah dengan rumus:

```
px = (c2-c1)/(m1-m2);
py = (m1*px)+c1;
```

nanti akan didapat nilai **px sebagai nilai x** dan **py sebagai nilai y** yang nanti akan menjadi nilai dari perpotongan = px,py.

```
    c4 = ey - (m4*ex);
    printf("M2 = (%f - %f)/(%f - %f)\n",fy,ey,fx,ex);
    printf("M2 = %f\n",m4);
    printf("C2 = %f - (%f * %f)\n",ey,m4,ex);
    printf("C2 = %f\n\n",c4);

    //menentukan titik potong
    //TITIK ABEF
    printf("Mencari titik potong ABEF:\n");
    px1 = (c4-c3)/(m3-m4);
    py1 = (m3*px1)+c3;
    printf("px = (%f - %f)/(%f - %f)\n",c4,c3,m3,m4);
    printf("px = %f\n",px1);
    printf("py = (%f * %f) + %f\n",m3,px1,c3);
    printf("py = %f\n\n",py1);
    printf("(py,py) = (%f, %f)\n\n",px1,py1);


//=====================================
    printf("Mencari persamaan garis CD:\n");
    m5 = (dy-cy)/(dx-cx);
    c5 = cy - (m5*cx);
    printf("M1 = (%f - %f)/(%f - %f)\n",dy,cy,dx,cx);
    printf("M1 = %f\n",m5);
    printf("C1 = %f - (%f * %f)\n",cy,m5,cx);
    printf("C1 = %f\n\n",c5);



    printf("Mencari persamaan garis EF:\n");
    m6 = (fy-ey)/(fx-ex);
    c6 = ey - (m6*ex);
    printf("M2 = (%f - %f)/(%f - %f)\n",fy,ey,fx,ex);
    printf("M2 = %f\n",m6);
    printf("C2 = %f - (%f * %f)\n",ey,m6,ex);
    printf("C2 = %f\n\n",c6);

    printf("Mencari titik potong CDEF:\n");
    px2 = (c6-c5)/(m5-m6);
    py2 = (m5*px2)+c5;
    printf("px = (%f - %f)/(%f - %f)\n",c6,c5,m5,m6);
    printf("px = %f\n",px2);
    printf("py = (%f * %f) + %f\n",m5,px2,c5);
    printf("py = %f\n\n",py2);
    printf("(py,py) = (%f, %f)\n\n",px2,py2);
//=====================================
```

Semua Rumus dan pengerjaan koding sama semua Langkah dan untuk hasilnya adalah mencari titik potong dari 2 garis dengan menghasilkan nilai px,py yang baru.

```
    glColor3f(1,0,0);
    glPointSize(8);
    glBegin(GL_POINTS);
        glVertex2f(px,py);
        glVertex2f(px1,py1);
        glVertex2f(px2,py2);
    glEnd();

    printf("\nNilai titik potong:\n");
    printf("=======================\n");
    printf("1. %f,%f\n", px,py);
    printf("2. %f,%f\n", px1,py1);
    printf("3. %f,%f\n", px2,py2);
    printf("=======================\n");
}


void rumusFI(float ax, float ay, float bx, float by, float cx, float cy, float dx,
float dy,float ex, float ey,float fx, float fy, float gx, float gy, float hx,
float hy){

      float m1,c1,m2,c2,px,py,m3,c3,m4,c4,m5,c5,m6,c6,px1,py1,px2,py2;
    glLineWidth(4.0);
    glBegin(GL_LINES);
        glColor3f(1,1,0);
        glVertex2f(ax,ay);
        glColor3f(1,0,1);
        glVertex2f(bx,by);

        glColor3f(1,0,0);
        glVertex2f(cx,cy);
        glColor3f(0,0,1);
        glVertex2f(dx,dy);

        glColor3f(0,1,1);
        glVertex2f(ex,ey);
        glColor3f(1,1,0);
        glVertex2f(fx,fy);

        glColor3f(0,1,1);
        glVertex2f(gx,gy);
        glColor3f(1,1,0);
        glVertex2f(hx,hy);
    glEnd();

    //menentukan persamaan garis
    // TITIK AB
```

Dalam studi kasus diatas untuk mendapat nilai perpotongan jang menggunakan garis tegak dan lurus karena jika menggunakan 2 garis yang masing masing lurus akan menghasilkan nilai 0 itu akan terbaca erorr di program dan bahkan untuk tulis tangan juga tidak mendapat jawaban

Sebagai contoh:

Mencari Titik Potong I
==========
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis CD:
M2 = (4.750000 - 4.750000)/(12.750000 - 12.250000)
M2 = 0.000000
C2 = 4.750000 - (0.000000 * 12.250000)
C2 = 4.750000

Mencari titik potong ABCD:
px = (4.750000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.509376
py = (399.990845 * 12.509376) + -4998.885742
py = 4.750000

(py,py) = (12.509376, 4.750000)

```
    printf("Mencari persamaan garis AB:\n");
    m1 = (by-ay)/(bx-ax);
    c1 = ay - (m1*ax);
    printf("M1 = (%f - %f)/(%f - %f)\n",by,ay,bx,ax);
    printf("M1 = %f\n",m1);
    printf("C1 = %f - (%f * %f)\n",ay,m1,ax);
    printf("C1 = %f\n\n",c1);
    // TITIK CD

    printf("Mencari persamaan garis CD:\n");
    m2 = (dy-cy)/(dx-cx);
    c2 = cy - (m2*cx);
    printf("M2 = (%f - %f)/(%f - %f)\n",dy,cy,dx,cx);
    printf("M2 = %f\n",m2);
    printf("C2 = %f - (%f * %f)\n",cy,m2,cx);
    printf("C2 = %f\n\n",c2);

    //menentukan titik potong
    //TITIK ABCD

    printf("Mencari titik potong ABCD:\n");
    px = (c2-c1)/(m1-m2);
    py = (m1*px)+c1;
    printf("px = (%f - %f)/(%f - %f)\n",c2,c1,m1,m2);
    printf("px = %f\n",px);
    printf("py = (%f * %f) + %f\n",m1,px,c1);
    printf("py = %f\n\n",py);
    printf("(py,py) = (%f, %f)\n\n",px,py);

//rumusFI(8,5,8,1,6.5,4.8,9.5,4.8,7.5,3.5,8.5,3.5,7.75,1.2,8.25,1.2);
//=========================================


    // TITIK AB
    printf("Mencari persamaan garis AB:\n");
    m3 = (by-ay)/(bx-ax);
    c3 = ay - (m3*ax);
    printf("M1 = (%f - %f)/(%f - %f)\n",by,ay,bx,ax);
    printf("M1 = %f\n",m3);
    printf("C1 = %f - (%f * %f)\n",ay,m3,ax);
    printf("C1 = %f\n\n",c3);

    // TITIK EF
        printf("Mencari persamaan garis AB:\n");
    m4 = (fy-ey)/(fx-ex);
    c4 = ey - (m4*ex);
    printf("M1 = (%f - %f)/(%f - %f)\n",fy,ey,fx,ex);
```

```
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis AB:
M1 = (3.000000 - 3.000000)/(12.780000 - 12.280000)
M1 = 0.000000
C1 = 3.000000 - (0.000000 * 12.280000)
C1 = 3.000000
Mencari titik potong ABEF:
px = (3.000000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.505000
py = (399.990845 * 12.505000) + -4998.885742
py = 3.000000

(py,py) = (12.505000, 3.000000)

Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(12.500000 - 12.510000)
M1 = 399.990845
C1 = 5.000000 - (399.990845 * 12.510000)
C1 = -4998.885742

Mencari persamaan garis GH:
M1 = (1.250000 - 1.250000)/(12.750000 - 12.250000)
M1 = 0.000000
C1 = 1.250000 - (0.000000 * 12.250000)
C1 = 1.250000

Mencari titik potong ABGH:
px = (1.250000 - -4998.885742)/(399.990845 - 0.000000)
px = 12.500626
py = (399.990845 * 12.500626) + -4998.885742
py = 1.250000
(py,py) = (12.500626, 1.250000)
Nilai titik potong:
======================
1. 12.509376,4.750000
2. 12.505000,3.000000
3. 12.500626,1.250000
======================
```

```
    printf("M1 = %f\n",m4);
    printf("C1 = %f - (%f * %f)\n",ey,m4,ex);
    printf("C1 = %f\n\n",c4);



    //menentukan titik potong
    //TITIK ABEF
    printf("Mencari titik potong ABEF:\n");
    px1 = (c4-c3)/(m3-m4);
    py1 = (m3*px1)+c3;
    printf("px = (%f - %f)/(%f - %f)\n",c4,c3,m3,m4);
    printf("px = %f\n",px1);
    printf("py = (%f * %f) + %f\n",m3,px1,c3);
    printf("py = %f\n\n",py1);
    printf("(py,py) = (%f, %f)\n\n",px1,py1);

//=====================================
    printf("Mencari persamaan garis AB:\n");
    m5 = (by-ay)/(bx-ax);
    c5 = ay - (m5*ax);
    printf("M1 = (%f - %f)/(%f - %f)\n",by,ay,bx,ax);
    printf("M1 = %f\n",m5);
    printf("C1 = %f - (%f * %f)\n",ay,m5,ax);
    printf("C1 = %f\n\n",c5);


    printf("Mencari persamaan garis GH:\n");
    m6 = (hy-gy)/(hx-gx);
    c6 = gy - (m6*gx);
    printf("M1 = (%f - %f)/(%f - %f)\n",hy,gy,hx,gx);
    printf("M1 = %f\n",m6);
    printf("C1 = %f - (%f * %f)\n",gy,m6,gx);
    printf("C1 = %f\n\n",c6);


    //menentukan titik potong
    printf("Mencari titik potong ABGH:\n");
    px2 = (c6-c5)/(m5-m6);
    py2 = (m5*px2)+c5;
    printf("px = (%f - %f)/(%f - %f)\n",c6,c5,m5,m6);
    printf("px = %f\n",px2);
    printf("py = (%f * %f) + %f\n",m5,px2,c5);
    printf("py = %f\n\n",py2);
    printf("(py,py) = (%f, %f)\n\n",px2,py2);
//=====================================
```

Pada program saya tambahkan 0.1 sehingga garis tidak tegak lurs dan akan sedikit mereng hal ini dilakukan agar tidak mendapat nilai erorr.
Jika menggunakan garis tegak lurus maka program akan memberikan nilai erorr atau nan seperti ini:

```
Mencari Titik Potong F
=====================================
===
Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 -
8.000000)
M1 = -inf
C1 = 5.000000 - (-inf * 8.000000)
C1 = inf

Mencari persamaan garis CD:
M2 = (4.800000 - 4.800000)/(9.500000 -
6.500000)
M2 = 0.000000
C2 = 4.800000 - (0.000000 * 6.500000)
C2 = 4.800000

Mencari titik potong ABCD:
px = (4.800000 - inf)/(-inf - 0.000000)
px = nan
py = (-inf * nan) + inf
py = nan

(py,py) = (nan, nan)

Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 -
8.000000)
M1 = -inf
C1 = 5.000000 - (-inf * 8.000000)
C1 = inf

Mencari persamaan garis AB:
M1 = (3.500000 - 3.500000)/(8.500000 -
7.500000)
M1 = 0.000000
C1 = 3.500000 - (0.000000 * 7.500000)
C1 = 3.500000
```

```
    glColor3f(1,0,0);
    glPointSize(8);
    glBegin(GL_POINTS);
        glVertex2f(px,py);
        glVertex2f(px1,py1);
        glVertex2f(px2,py2);
    glEnd();

    printf("\nNilai titik potong:\n");
    printf("======================\n");
    printf("1. %f,%f\n", px,py);
    printf("2. %f,%f\n", px1,py1);
    printf("3. %f,%f\n", px2,py2);
    printf("======================\n");
}
```

```
Mencari titik potong ABEF:
px = (3.500000 - inf)/(-inf - 0.000000)
px = nan
py = (-inf * nan) + inf
py = nan

(py,py) = (nan, nan)

Mencari persamaan garis AB:
M1 = (1.000000 - 5.000000)/(8.000000 - 8.000000)
M1 = -inf
C1 = 5.000000 - (-inf * 8.000000)
C1 = inf

Mencari persamaan garis GH:
M1 = (1.200000 - 1.200000)/(8.250000 - 7.750000)
M1 = 0.000000
C1 = 1.200000 - (0.000000 * 7.750000)
C1 = 1.200000

Mencari titik potong ABGH:
px = (1.200000 - inf)/(-inf - 0.000000)
px = nan
py = (-inf * nan) + inf
py = nan

(py,py) = (nan, nan)


Nilai titik potong:
======================
1. nan,nan
2. nan,nan
3. nan,nan
======================
```