**Hermite curve**

#include<iostream>

#include<conio.h>

#include<graphics.h>

#include<math.h>

using namespace std;

struct point

{

int x,y;

};

void hermite(point p1,point p4,double r1,double r4)

{

float x,y,t;

for(t=0.0;t<=1.0;t+=0.001)

{

x=(2\*t\*t\*t-3\*t\*t+1)\*p1.x+(-2\*t\*t\*t+3\*t\*t)\*p4.x+(t\*t\*t-2\*t\*t+t)\*r1+(t\*t\*t-t\*t)\*r4;

y=(2\*t\*t\*t-3\*t\*t+1)\*p1.y+(-2\*t\*t\*t+3\*t\*t)\*p4.y+(t\*t\*t-2\*t\*t+1)\*r1+(t\*t\*t-t\*t)\*r4;

putpixel(x,y,YELLOW);

}

putpixel(p1.x,p1.y,GREEN);

putpixel(p4.x,p4.y,GREEN);

line(p1.x,p1.y,p4.x,p4.y);

}

int main()

{

initwindow(800,800);

double r1,r4;

point p1,p2;

cout<<"enter 2 hermite points"<<endl;

cin>>p1.x>>p1.y>>p2.x>>p2.y;

cout<<"enter tangents at p1 and p4"<<endl;

cin>>r1>>r4;

hermite(p1,p2,r1,r4);

getch();

closegraph();

return 0;

}

**OUTPUT:**

