**Assignment no : 5**

Name : Atharva B. Iparkar Date : 01/08/2024

Roll no : S211045

Class : S.E.

Div : A

Batch : A-2

Problem Statement : To draw get points using DDA Line Algorithm

Code :

#include<iostream>

using namespace std;

class point {

public :

float x0, y0;

void accept() {

cin>>x0>>y0;

}

void display() {

cout<<"point is : ("<<x0<<","<<y0<<")"<<endl;

}

void DDALine (float x1, float y1, float x2, float y2) {

float x,y,dx,dy,xinc,yinc,steps;

dx = x2 - x1;

dy = y2 - y1;

x = x1;

y = y1;

while ((x <= x2) && (y <= y2)) {

if (dx > dy) {

steps = dx;

} else {

steps = dy;

}

xinc = dx/steps;

yinc = dy/steps;

x = x + xinc;

y = y + yinc;

cout<<"point is : ("<<x<<","<<y<<")"<<endl;

}

}

};

int main() {

point P1, P2, P3;

cout<<"Enter the start pt. coordinate : ";

P1.accept();

P1.display();

cout<<"Enter the end pt. coordinate : ";

P2.accept();

P2.display();

P3.DDALine(P1.x0, P1.y0, P2.x0, P2.y0);

return 0;

}

Output :

d\_comp\_pl\_ii\_11@d-comp-pl-ii-11:~/SE\_A2\_S211045\_Atharva$ g++ DDA\_Algo.cpp -o d -lgraph

d\_comp\_pl\_ii\_11@d-comp-pl-ii-11:~/SE\_A2\_S211045\_Atharva$ ./d

Enter the start pt. coordinate : 10

20

point is : (10,20)

Enter the end pt. coordinate : 30

40

point is : (30,40)

point is : (11,21)

point is : (12,22)

point is : (13,23)

point is : (14,24)

point is : (15,25)

point is : (16,26)

point is : (17,27)

point is : (18,28)

point is : (19,29)

point is : (20,30)

point is : (21,31)

point is : (22,32)

point is : (23,33)

point is : (24,34)

point is : (25,35)

point is : (26,36)

point is : (27,37)

point is : (28,38)

point is : (29,39)

point is : (30,40)

point is : (31,41)

d\_comp\_pl\_ii\_11@d-comp-pl-ii-11:~/SE\_A2\_S211045\_Atharva$