**Bresenhams Line Drawing**

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<!DOCTYPE html>

<html>

<head>

<title>Bresenhams Line Drawing</title>

</head>

<body>

<center>

<h1>Bresenhams Line Drawing</h1>

<button onclick="call()" style="top:11% left:55%">Click To start drawing</button></center>

<center><canvas id="c" width="500" height="500"></canvas></center>

<script type="text/javascript">

function call(){

var t1=(window.prompt("Enter x1 y1 point of Traingle ").split(" "));

var t2=(window.prompt("Enter x2 y2 point of Traingle ").split(" "));

var t3=(window.prompt("Enter x3 y3 point of Traingle ").split(" "));

var p1=(window.prompt("Enter x1 y2 point of Line ").split(" "));

var x1=parseInt(p1[0]);

var y1=parseInt(p1[1]);

var p2=(window.prompt("Enter x2 y2 point of Line ").split(" "));

var x2=parseInt(p2[0]);

var y2=parseInt(p2[1]);

canvas=document.getElementById("c");

context=canvas.getContext("2d");

context.beginPath();

context.lineWidth = 4;

context.moveTo(parseInt(t1[0]),parseInt(t1[1]));

context.lineTo(parseInt(t2[0]),parseInt(t2[1]));

context.lineTo(parseInt(t3[0]),parseInt(t3[1]));

context.lineTo(parseInt(t1[0]),parseInt(t1[1]));

context.stroke();

context.closePath();

context.beginPath();

context.lineWidth = 1;

var dy=y2-y1;

var dx=x2-x1;

if(dx==0){

while(1){

if (x1==x2 && y1==y2)

break;

y1++;

context.lineTo(x1,y1);

context.stroke();

}

}

else if(dy==0){

while(1){

if (x1==x2 && y1==y2){

break;

}

x1++;

context.lineTo(x1,y1);

context.stroke();

}

}

else{

var m=dy/dx;

if(m==1){

while(1){

if (x1==x2 && y1==y2){

break;

}

x1++;

y1++;

context.lineTo(x1,y1);

context.stroke();

}

}

else if(m<1){

if(dx<0) //if x is larger than xdest so we have to decrement

incx=parseInt(-1);

else if(dx>0) //if xdest is larger than x so we have to increment

incx=parseInt(1);

if(dy<0) //if y is larger than ydest so we have to decrement

incy=parseInt(-1);

else if(dy>0) //if ydest is larger than y so we have to increment

incy=parseInt(1);

if(m<0)

if(dy<0)

dy=-dy;

if(dx<0)

dx=-dx;

console.log(m, '\n' , dx ,'\n' , dy);

var pk=(2\*dy)-dx;

while(1){

if(pk < 0){

if(x1!=x2){

x1+=incx;

}

pk=pk+(2\*dy);

}

else{ //if (pk>=0)

if(x1!=x2){

x1+=incx;

}

if(y1!=y2){

y1+=incy;

}

pk=pk+(2\*dy)-(2\*dx);

}

console.log(x1 ,' ', y1)

context.lineTo(x1,y1);

context.stroke();

if(x1==x2 && y1==y1){

break;

}

}

}

else{

var pk=(2\*dx)-dy;

while(1){

if(pk < 0){

if(y1!=y2){

y1++;

}

pk=pk+(2\*dx);

}

else{ //if (pk>=0)

if(x1!=x2){

x1++;

}

if(y1!=y2){

y1++;

}

pk=pk+(2\*dx)-(2\*dy);

}

context.lineTo(x1,y1);

context.stroke();

if(x1==x2 && y1==y1){

break;

}

}

}

context.closePath();

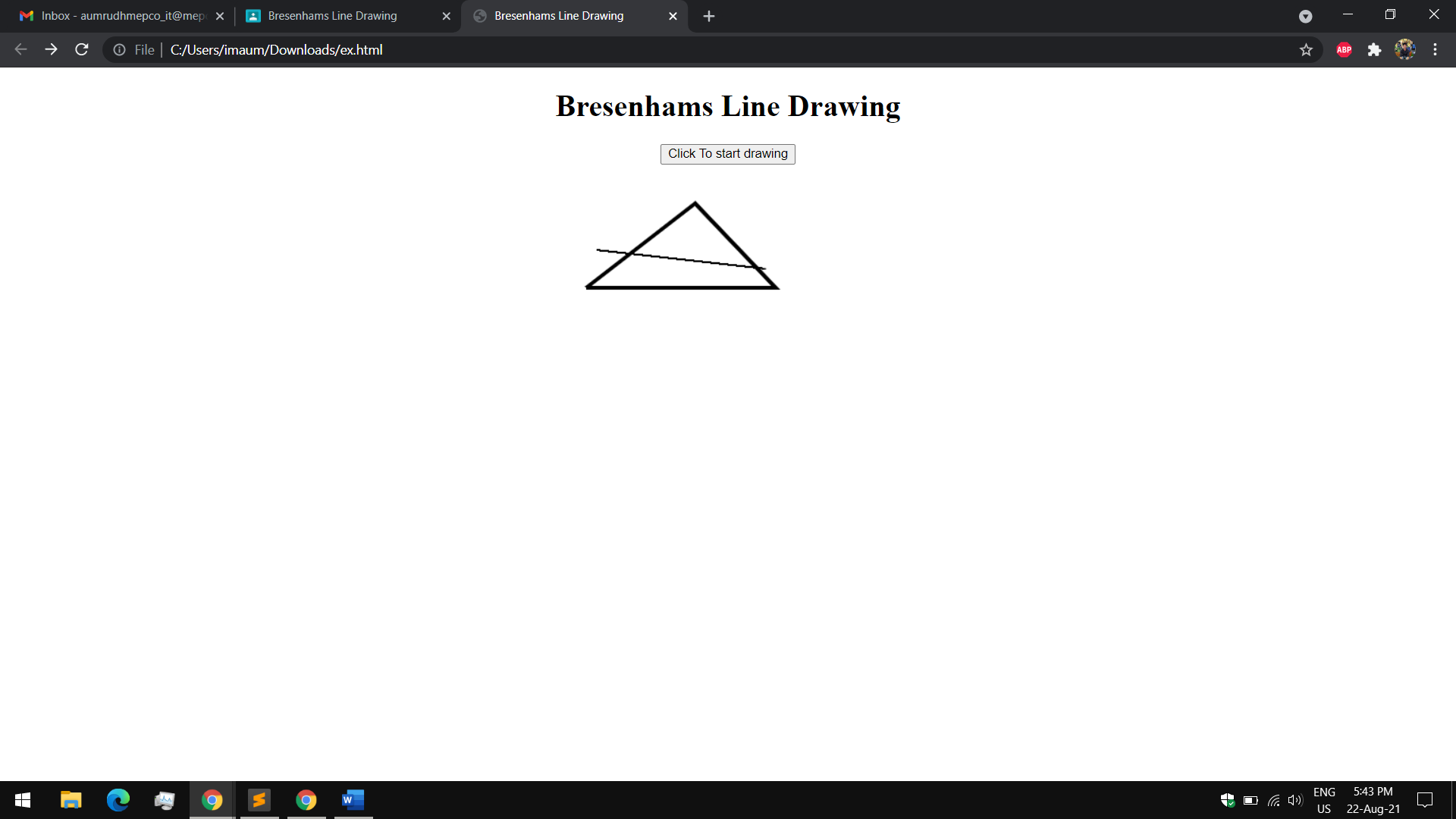
}

}

</script>

</body>

</html>



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