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C

Mata Kuliah Grafika Komputer

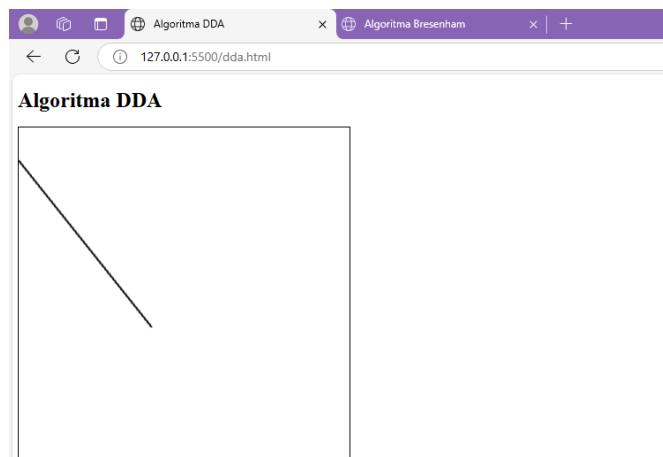
Tugas pembentukan garis menggunakan Algoritma DDA dan Bresenham

## 1. Menggunakan Algoritma DDA

Source Code :

```
File Edit Selection View Go ... grafikom
EXPLORER
  OPEN EDITORS
    Welcome
    dda.html
    bresenham.html
  GRAFIKOM
    bresenham.html
    dda.html
  dda.html
1 <!DOCTYPE html>
2 <html lang="id">
3 <head>
4   <meta charset="UTF-8">
5   <title>Algoritma DDA</title>
6 </head>
7 <body>
8   <h1>Algoritma DDA</h1>
9   <canvas id="myCanvas" width="500" height="500" style="border:1px
10 solid black;"></canvas>
11 <script>
12   var canvas = document.getElementById('myCanvas');
13   var context = canvas.getContext('2d');
14
15   function Titik(x, y) {
16     context.beginPath();
17     context.rect(x, y, 1, 1);
18     context.fillStyle = "black";
19     context.fill();
20     context.stroke();
21   }
22
23   function garisDDA(x1, y1, x2, y2) {
24     let dx = x2 - x1;
25     let dy = y2 - y1;
26     let steps;
27
28     if (Math.abs(dx) > Math.abs(dy)) {
29       steps = Math.abs(dx);
30     } else {
31       steps = Math.abs(dy);
32     }
33
34     let xInc = dx / steps;
35     let yInc = dy / steps;
36
37     let x = x1, y = y1;
38
39     for (let i = 0; i <= steps; i++) {
40       Titik(Math.round(x), Math.round(y));
41       x += xInc;
42       y += yInc;
43     }
44
45     // Menggambar garis dari (0, 50) ke (200, 300)
46     garisDDA(0, 50, 200, 300);
47   }
48 </script>
49 </body>
50 </html>
```

Output :



## 2. Menggunakan Algoritma Bresenham

Source Code :

```
File Edit Selection View Go ... grafikom
EXPLORER
  OPEN EDITORS
    Welcome
    dds.html
    bresenham.html
  GRAFIKOM
    bresenham.html
    dds.html
  bresenham.html
1 <!DOCTYPE html>
2 <html lang="id">
3 <head>
4   <meta charset="UTF-8">
5   <title>Algoritma Bresenham</title>
6 </head>
7 <body>
8   <h1>Algoritma Bresenham</h1>
9   <canvas id="myCanvas" width="500" height="500" style="border:1px
10 solid black;"></canvas>
11 <script>
12   var canvas = document.getElementById('myCanvas');
13   var context = canvas.getContext('2d');
14
15   function Titik(x, y) {
16     context.beginPath();
17     context.rect(x, y, 1, 1);
18     context.fillStyle = "black";
19     context.fill();
20     context.stroke();
21   }
22
23   function garisBresenham(x1, y1, x2, y2) {
24     let dx = Math.abs(x2 - x1);
25     let dy = Math.abs(y2 - y1);
26     let sx = (x1 < x2) ? 1 : -1;
27     let sy = (y1 < y2) ? 1 : -1;
28     let err = dx - dy;
29
30     while (true) {
31       Titik(x1, y1);
32       if (x1 === x2 && y1 === y2) break;
33       let e2 = 2 * err;
34       if (e2 > -dy) {
35         err -= dy;
36         x1 += sx;
37       }
38       if (e2 < dx) {
39         err += dx;
40         y1 += sy;
41       }
42     }
43     //Menggambar garis dari (0, 50) ke (200, 300)
44     garisBresenham(0, 50, 200, 300);
45   }
46 </script>
47 </body>
48 </html>
```

Output :

