

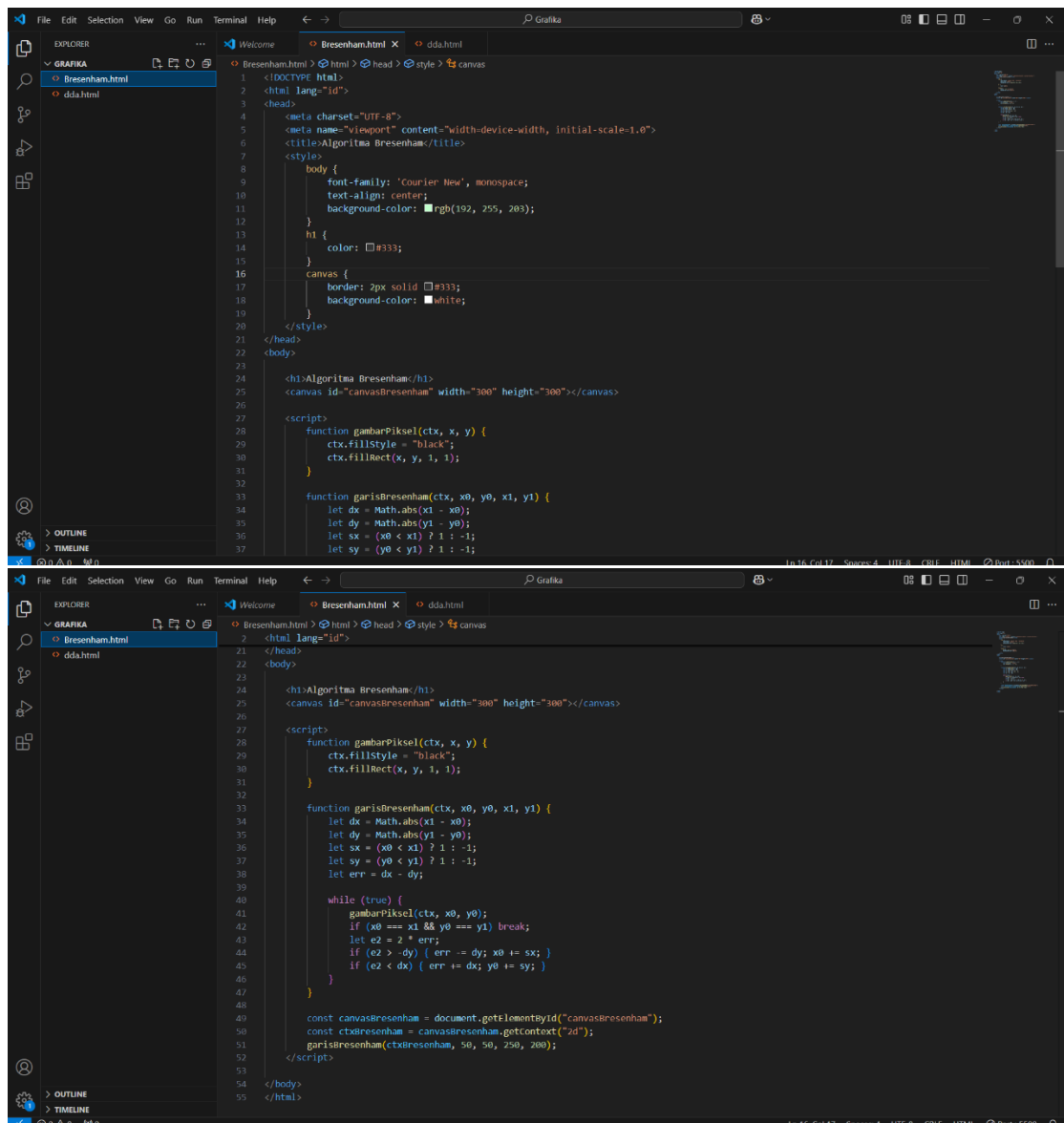
Nama : Meita Ayu Sabna Damaynti

Npm : 2257051014

Kelas : CD

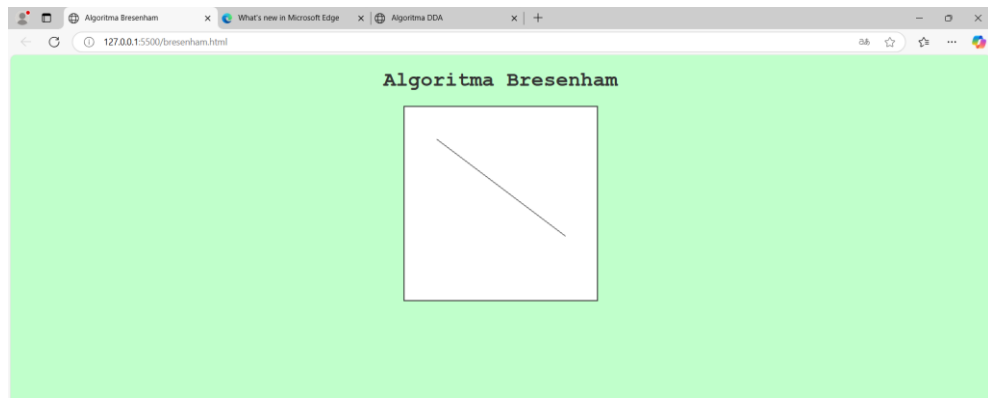
Tugas Pembentukan Garis Menggunakan Algoritma Bresenham dan DDA

1. Menggunakan Algoritma Bresenham



```
1 <!DOCTYPE html>
2 <html lang="id">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Algoritma Bresenham</title>
7   <style>
8     body {
9       font-family: 'Courier New', monospace;
10      text-align: center;
11      background-color: #192, 255, 203;
12    }
13    h1 {
14      color: #333;
15    }
16    canvas {
17      border: 2px solid #333;
18      background-color: white;
19    }
20  </style>
21 </head>
22 <body>
23   <h1>Algoritma Bresenham</h1>
24   <canvas id="canvasBresenham" width="300" height="300"></canvas>
25
26   <script>
27     function gambarPiksel(ctx, x, y) {
28       ctx.fillStyle = "black";
29       ctx.fillRect(x, y, 1, 1);
30     }
31
32     function garisBresenham(ctx, x0, y0, x1, y1) {
33       let dx = Math.abs(x1 - x0);
34       let dy = Math.abs(y1 - y0);
35       let sx = (x0 < x1) ? 1 : -1;
36       let sy = (y0 < y1) ? 1 : -1;
37       let err = dx - dy;
38
39       while (true) {
40         gambarPiksel(ctx, x0, y0);
41         if (x0 === x1 && y0 === y1) break;
42         let e2 = 2 * err;
43         if (e2 > -dy) { err += dy; x0 += sx; }
44         if (e2 < dx) { err += dx; y0 += sy; }
45       }
46
47       const canvasBresenham = document.getElementById("canvasBresenham");
48       const ctxBresenham = canvasBresenham.getContext("2d");
49       garisBresenham(ctxBresenham, 50, 50, 250, 200);
50     }
51   </script>
52
53 </body>
54 </html>
```

- Hasilnya :



2. Menggunakan Algoritma DDA

```

1  <!DOCTYPE html>
2  <html lang="id">
3  <head>
4  <meta charset="UTF-8">
5  <meta name="viewport" content="width=device-width, initial-scale=1.0">
6  <title>Algoritma DDA</title>
7  <style>
8  body {
9    font-family: 'Courier New', monospace;
10   text-align: center;
11   background-color: #192521;
12 }
13 h1 {
14   color: #e333;
15 }
16 canvas {
17   border: 2px solid #e333;
18   background-color: white;
19 }
20 </style>
21 </head>
22 <body>
23   <h1>Algoritma DDA</h1>
24   <canvas id="canvasDDA" width="300" height="300"></canvas>
25
26   <script>
27     function gambarPiksel(ctx, x, y) {
28       ctx.fillStyle = "black";
29       ctx.fillRect(x, y, 1, 1);
30     }
31
32     function garisDDA(ctx, x0, y0, x1, y1) {
33       let dx = x1 - x0;
34       let dy = y1 - y0;
35       let langkah = Math.max(Math.abs(dx), Math.abs(dy));
36       let xinc = dx / langkah;
37       let yinc = dy / langkah;
38     }
39   </script>
40
41   <script>
42     const canvasDDA = document.getElementById("canvasDDA");
43     const ctxDDA = canvasDDA.getContext("2d");
44     garisDDA(ctxDDA, 50, 50, 250, 200);
45   </script>
46 </body>
47 </html>

```

```

1  <!DOCTYPE html>
2  <html lang="id">
3  <body>
4
5   <h1>Algoritma DDA</h1>
6   <canvas id="canvasDDA" width="300" height="300"></canvas>
7
8   <script>
9     function gambarPiksel(ctx, x, y) {
10       ctx.fillStyle = "black";
11       ctx.fillRect(x, y, 1, 1);
12     }
13
14     function garisDDA(ctx, x0, y0, x1, y1) {
15       let dx = x1 - x0;
16       let dy = y1 - y0;
17       let langkah = Math.max(Math.abs(dx), Math.abs(dy));
18       let xinc = dx / langkah;
19       let yinc = dy / langkah;
20       let x = x0, y = y0;
21       for (let i = 0; i <= langkah; i++) {
22         gambarPiksel(ctx, Math.round(x), Math.round(y));
23         x += xinc;
24         y += yinc;
25       }
26     }
27
28     const canvasDDA = document.getElementById("canvasDDA");
29     const ctxDDA = canvasDDA.getContext("2d");
30     garisDDA(ctxDDA, 50, 50, 250, 200);
31   </script>
32 </body>
33 </html>

```

- Hasilnya :

