

Tugas Grafika Komputer

Nama : Muhammad Hildan Alfaris

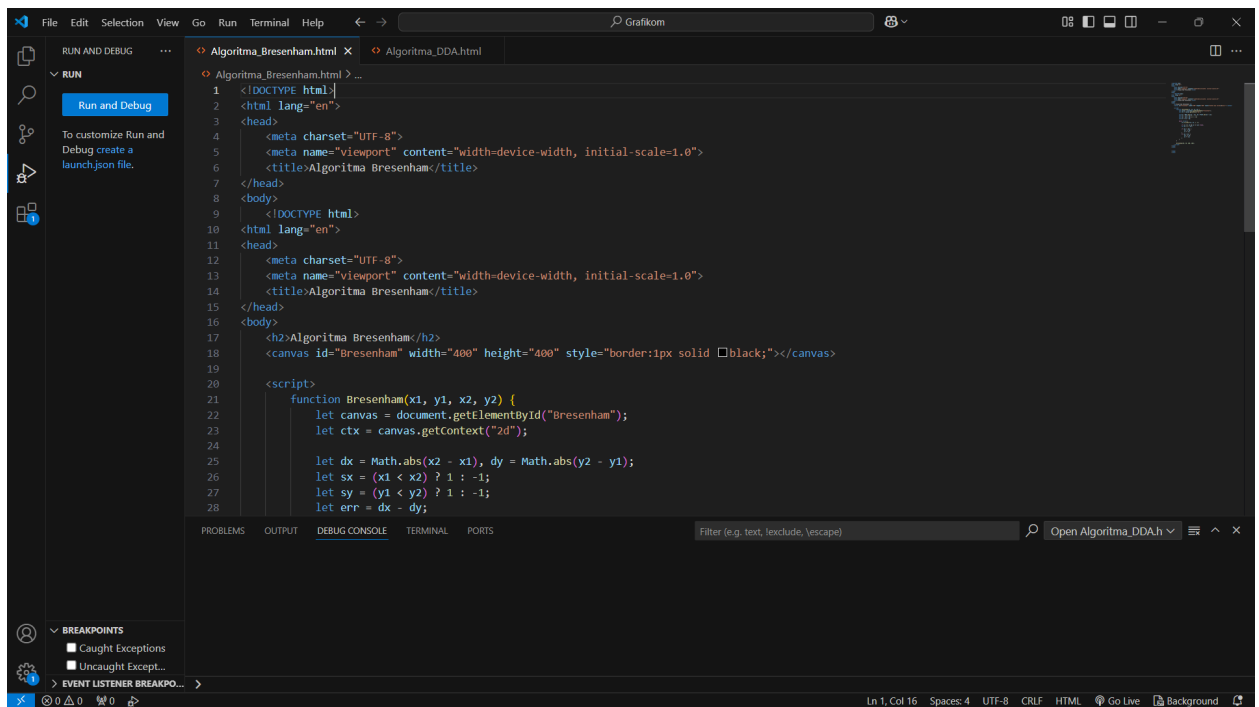
NPM : 2217051077

Kelas : D

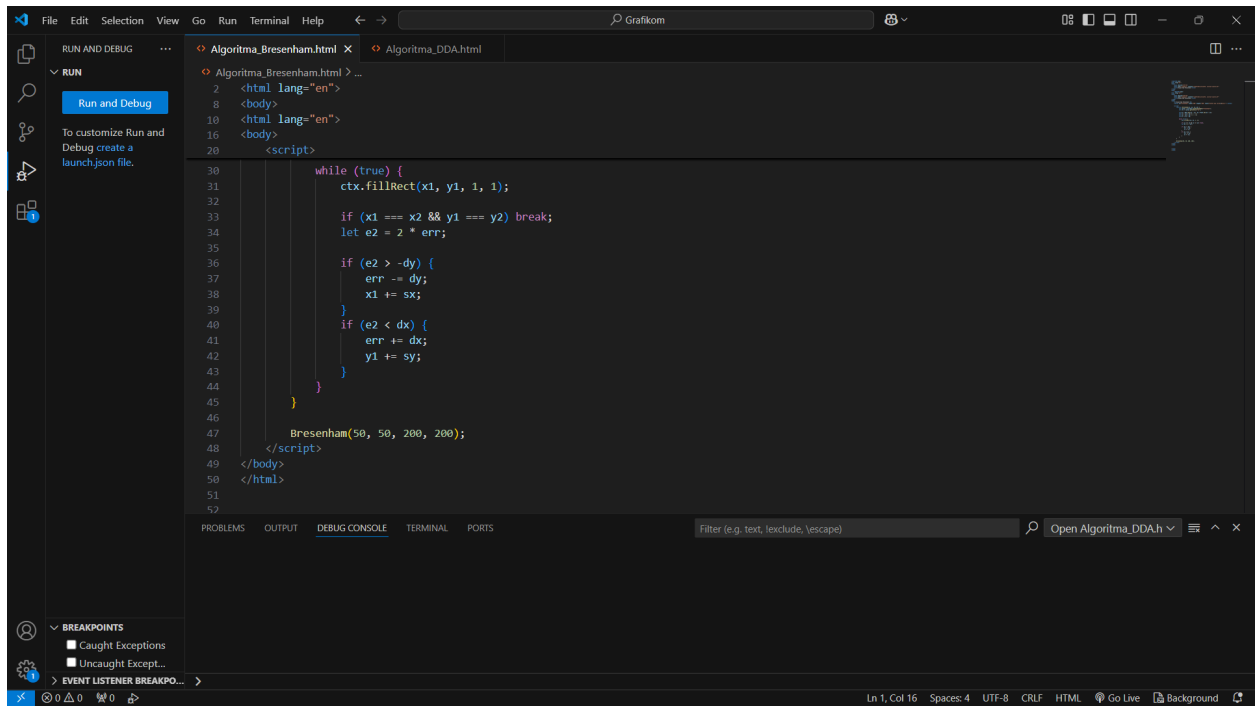
Tugas ke 2 Grafika Komputer Algoritma Pembentukan Garis

1. Algoritma Bresenham

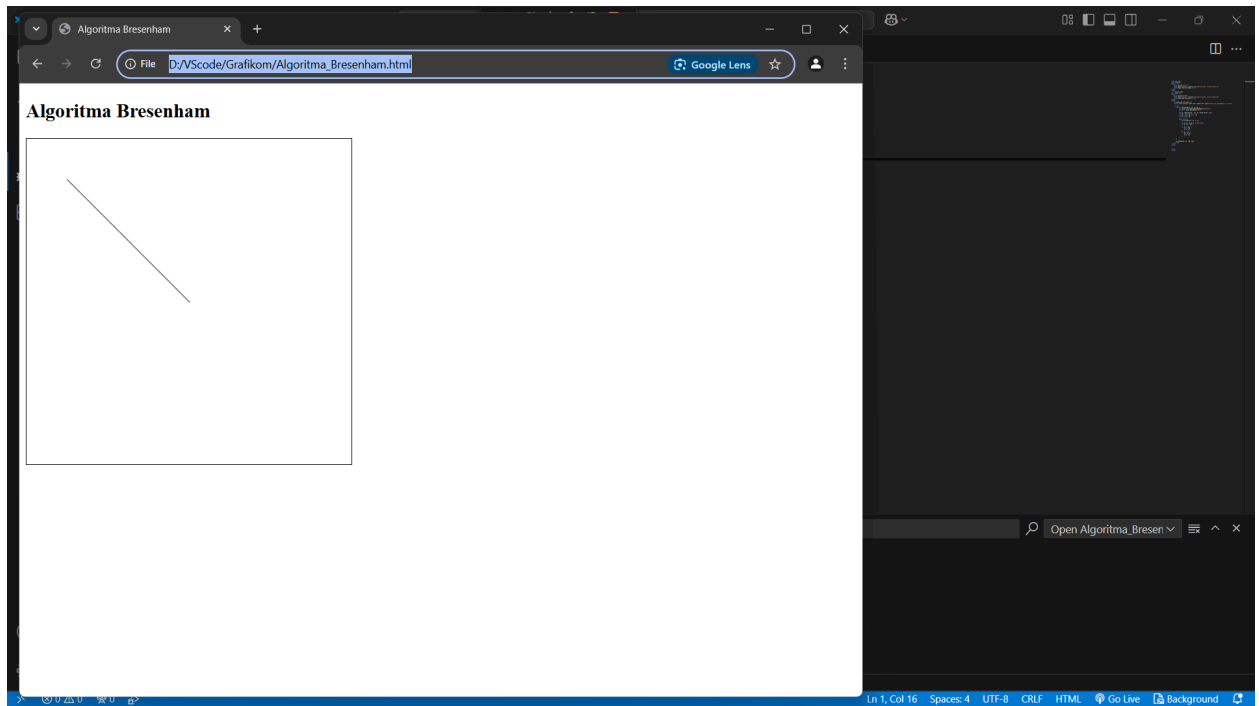
Sourcecode:



```
1 <!DOCTYPE html>
2 <html lang="en">
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 </head>
8 <body>
9   <!DOCTYPE html>
10  <html lang="en">
11  <head>
12    <meta charset="UTF-8">
13    <meta name="viewport" content="width=device-width, initial-scale=1.0">
14    <title>Algoritma Bresenham</title>
15  </head>
16  <body>
17    <h2>Algoritma Bresenham</h2>
18    <canvas id="bresenham" width="400" height="400" style="border:1px solid black;"></canvas>
19
20    <script>
21      function Bresenham(x1, y1, x2, y2) {
22        let canvas = document.getElementById("bresenham");
23        let ctx = canvas.getContext("2d");
24
25        let dx = Math.abs(x2 - x1), dy = Math.abs(y2 - y1);
26        let sx = (x1 < x2) ? 1 : -1;
27        let sy = (y1 < y2) ? 1 : -1;
28        let err = dx - dy;
```

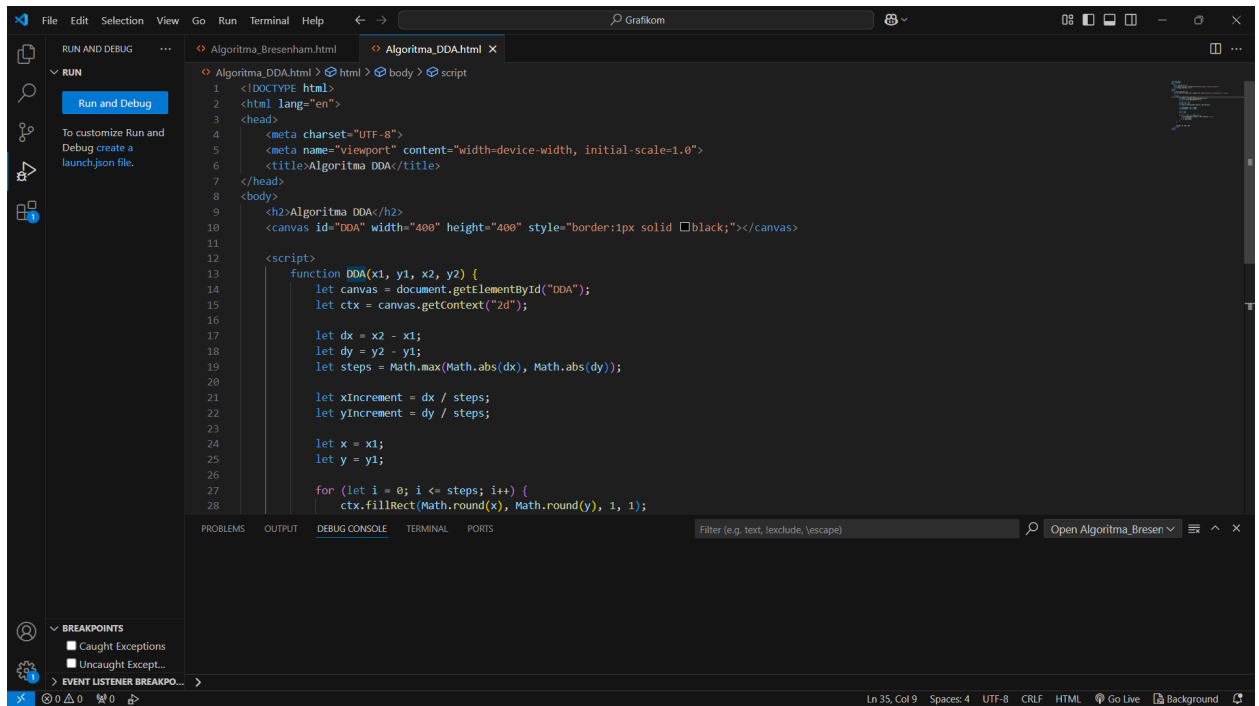


Output:

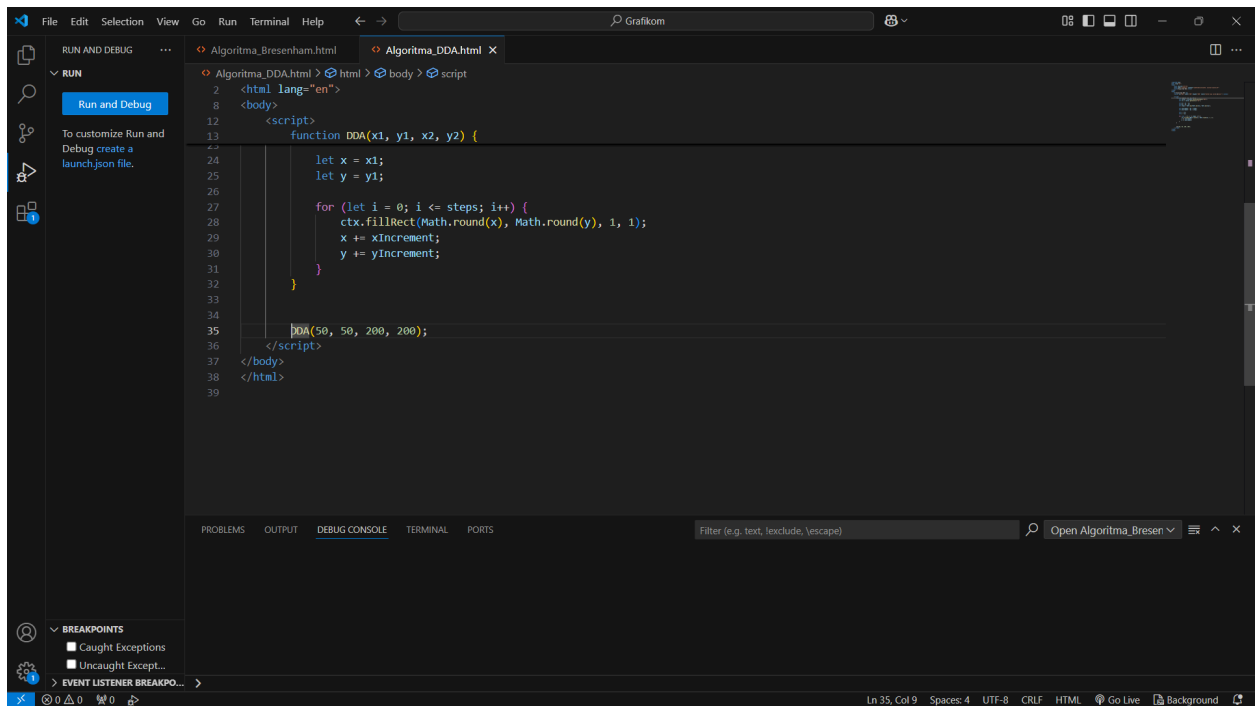


2. Algoritma DDA

Sourcecode :



```
1 <!DOCTYPE html>
2 <html lang="en">
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 </head>
8 <body>
9   <h2>Algoritma DDA</h2>
10  <canvas id="DDA" width="400" height="400" style="border:1px solid black;"></canvas>
11
12  <script>
13    function DDA(x1, y1, x2, y2) {
14      let canvas = document.getElementById("DDA");
15      let ctx = canvas.getContext("2d");
16
17      let dx = x2 - x1;
18      let dy = y2 - y1;
19      let steps = Math.max(Math.abs(dx), Math.abs(dy));
20
21      let xIncrement = dx / steps;
22      let yIncrement = dy / steps;
23
24      let x = x1;
25      let y = y1;
26
27      for (let i = 0; i <= steps; i++) {
28        ctx.fillRect(Math.round(x), Math.round(y), 1, 1);
29      }
30    }
31  </script>
32
33  DDA(50, 50, 200, 200);
34
35 </body>
36 </html>
```



```
2 <html lang="en">
8 <body>
12  <script>
13    function DDA(x1, y1, x2, y2) {
24      let x = x1;
25      let y = y1;
26
27      for (let i = 0; i <= steps; i++) {
28        ctx.fillRect(Math.round(x), Math.round(y), 1, 1);
29        x += xIncrement;
30        y += yIncrement;
31      }
32    }
33
34    DDA(50, 50, 200, 200);
35  </script>
36 </body>
37 </html>
```

Output :

