

LAPORAN PRAKTIKUM GRAFIKA KOMPUTER

“Algoritma Pembuatan Lingkaran Brassenham & Midpoint”

Disusun untuk memenuhi tugas mata kuliah Grafika Komputer



Dosen Pengampu :

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Disusun Oleh:

Nama : Dini Artika Rahmawati

NPM : 2413025014

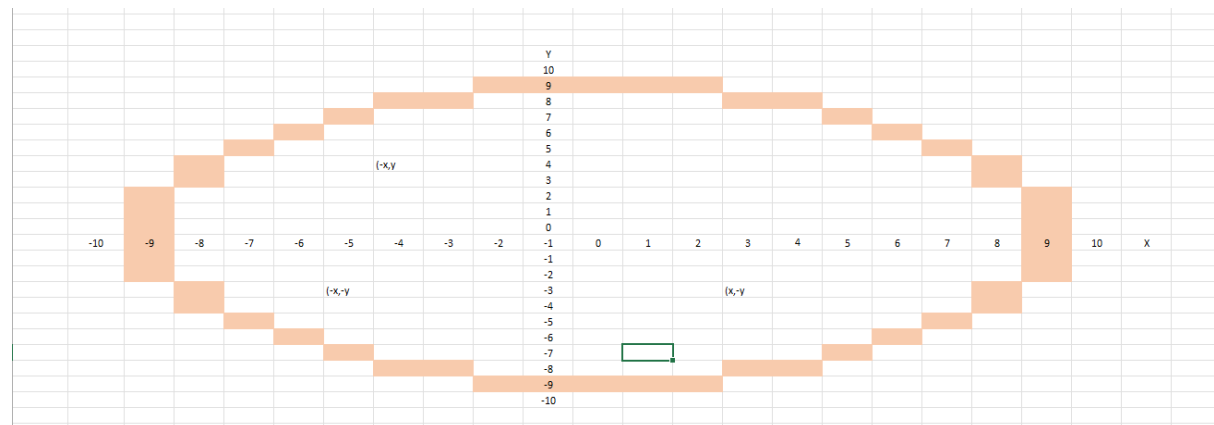
Kelas : PTI 24B

**PROGRAM STUDI PENDIDIKAN TEKNOLOGI INFORMASI
JURUSAN PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
UNIVERSITAS LAMPUNG**

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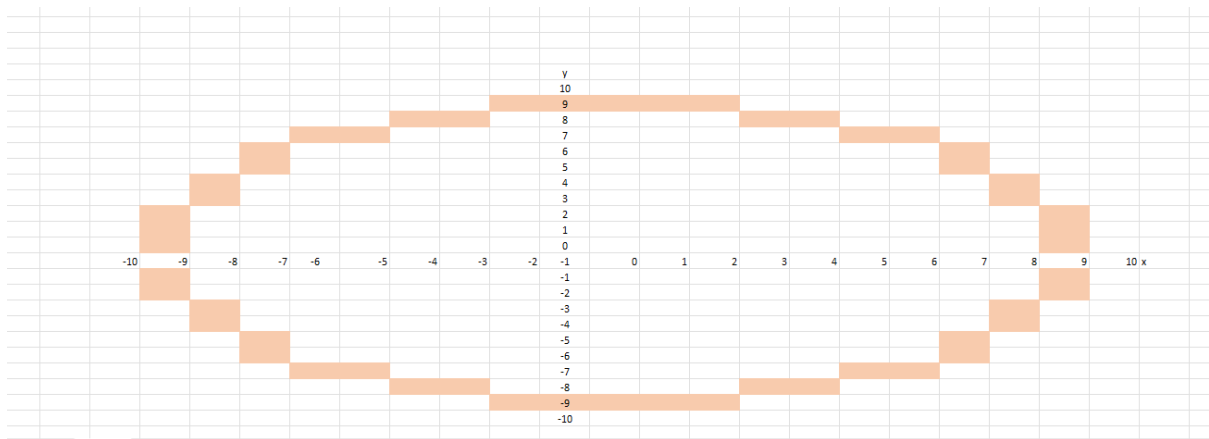
BRASENHAM

	A	B	C	D	E	F	G	H	I	J	K
1	NAMA : DINI ARTIKA RAHMAWATI										
2	NPM : 2413025014										
3	TUGAS TABEL LINGKARAN BRASENHAM										
4											
5		x	y	d	x0+x, y0+y	x0-x, y0+y	x0+x, y0-y	x0-x, y0-y	x0+y, y0+x	x0-y, y0-x	
6		0	9	-15	10+0, 10+5	10-0, 10+5	10+0, 10-5	10-0, 10-5	10+0, 10+5	10-0, 10-5	
7		1	9	-5	10+1, 10+9	10-1, 10+9	10+1, 10-9	10-1, 10-9	10+1, 10+9	10-1, 10-9	
8		2	9	9	10+2, 10+9	10-2, 10+9	10+2, 10-9	10-2, 10-9	10+2, 10+9	10-2, 10-9	
9		3	8	-1	10+3, 10+8	10-3, 10+8	10+3, 10-8	10-3, 10-8	10+3, 10+8	10-3, 10-8	
10		4	8	21	10+4, 10+8	10-4, 10+8	10+4, 10-8	10-4, 10-8	10+4, 10+8	10-4, 10-8	
11		5	7	23	10+5, 10+7	10-5, 10+7	10+5, 10-7	10-5, 10-7	10+5, 10+7	10-5, 10-7	
12		6	6	33	10+6, 10+6	10-6, 10+6	10+6, 10-6	10-6, 10-6	10+6, 10+6	10-6, 10-6	
13		6	6								
14		7	5								
15		8	4								
16		8	3								
17		int x=0			d=3-2*r	jika d < 0 maka y tetap					
18		int y=0				d = d+4* x + 6					
19						x selalu inc ++					
20					jika d > 0 maka y--						
21					d = d+4 (x-y)+10						
22											
23											
24											



MIDPOINT

	NAMA : DINI ARTIKA RAHMAWATI											
	NPM : 2413025014											
	TUGAS TABEL LINGKARAN MIDPOINT											
		x	y	p	x0+x, y0+y	x0-x, y0+y	x0+x, y0-y	x0-x, y0-y	x0+y, y0+x	x0-y, y0-x	x0+y, y0-x	x0-y, y0-x
		0	9	-8	10+0, 10+5	10-0, 10+5	10+0, 10-5	10-0, 10-5	10+5, 10+0	10-5, 10+0	10+5, 10-0	10-5, 10-0
		1	9	-5	10+1, 10+9	10-1, 10+9	10+1, 10-9	10-1, 10-9	10+9, 10+0	10-9, 10+1	10+9, 10-0	10-9, 10-0
		2	9	0	10+2, 10+9	10-2, 10+9	10+2, 10-9	10-2, 10-9	10+9, 10+0	10-9, 10+2	10+9, 10-0	10-9, 10-0
		3	8	-9	10+3, 10+8	10-3, 10+8	10+3, 10-8	10-3, 10-8	10+8, 10+0	10-8, 10+3	10+8, 10-0	10-8, 10-0
		4	8	0	10+4, 10+8	10-4, 10+8	10+4, 10-8	10-4, 10-8	10+8, 10+0	10-8, 10+4	10+8, 10-0	10-8, 10-0
		5	7	-3	10+5, 10+7	10-5, 10+7	10+5, 10-7	10-5, 10-7	10+7, 10+0	10-7, 10+5	10+7, 10-0	10-7, 10-0
		6	7	10	10+6, 10+7	10-6, 10+7	10+6, 10-7	10-6, 10-7	10+7, 10+0	10-7, 10+6	10+7, 10-0	10-7, 10-0
		7	6	13	10+7, 10+6	10-7, 10+6	10+7, 10-6	10-7, 10-6	10+6, 10+0	10-6, 10+7	10+6, 10-0	10-6, 10-0
		6	7									
		7	6									
		7	5									
		8	4									
		8	3									
		9	2									
		9	1									
					jika p < 0 maka y tetap		p=1 - r					
					p = p + 2*x + 1							
					jika p > 0 maka y--							
					p = p + 2* (x-y)+1							



HTML

```

PERPUSTAKAAN.py  aplikasi tidur.py  LINGKARAN.html X
LINGKARAN.html > html > body > script > drawmidpoint
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>Dini Artika Rahmawati_2413025014</title>
7      <style>
8          canvas {
9              border: 1px solid #000000;
10             margin: 10px;
11         }
12     </style>
13 </head>
14 <body>
15     <h1 align="center">LINGKARAN BRESENHAM DAN MIDPOINT</h1>
16
17     <label>X: <input type="number" id="x" value="150"></label>
18     <label>Y: <input type="number" id="y" value="150"></label>
19     <label>Radius: <input type="number" id="rad" value="50"></label>
20     <label>Warna: <input type="color" id="warna" value="#E4AB16"></label>
21     <button onclick="buatGambar()">Gambar Lingkaran</button>

```

```

22
23 <br/><br/>
24 <canvas id="myCanvas" width="300" height="300"></canvas>
25 <canvas id="midpoint" width="300" height="300"></canvas>
26
27 <script>
28     let canvas = document.getElementById("myCanvas");
29     let ctx = canvas.getContext("2d");
30
31     function titik(x, y, warna) {
32         ctx.fillStyle = warna;
33         ctx.fillRect(x, y, 1, 3);
34     }
35
36     function gambarTitikSimetris(x0, y0, x, y, warna) {
37         titik(x0 + x, y0 + y, warna);
38         titik(x0 - x, y0 + y, warna);
39         titik(x0 + x, y0 - y, warna);
40         titik(x0 - x, y0 - y, warna);
41         titik(x0 + y, y0 + x, warna);
42         titik(x0 - y, y0 + x, warna);
43         titik(x0 + y, y0 - x, warna);
44         titik(x0 - y, y0 - x, warna);
45     }

```

```

45     }
46
47     function linkBre(x0, y0, r, warna) {
48         var d = 3 - 2 * r;
49         var x = 0, y = r;
50
51         while (x <= y) {
52             gambarTitikSimetris(x0, y0, x, y, warna);
53             if (d <= 0) {
54                 d = d + 4 * x + 6;
55             } else {
56                 d = d + 4 * (x - y) + 10;
57                 y--;
58             }
59             x++;
60         }
61     }
62

```

```

63
64     function buatGambar() {
65         ctx.clearRect(0, 0, canvas.width, canvas.height);
66         ctxmidpoint.clearRect(0, 0, midpoint.width, midpoint.height);
67
68         let x0 = parseInt(document.getElementById("x").value);
69         let y0 = parseInt(document.getElementById("y").value);
70         let r = parseInt(document.getElementById("rad").value);
71         let warna = document.getElementById("warna").value;
72
73         linkBre(x0, y0, r, warna);
74         drawmidpoint(x0, y0, r);
75     }
76
77     let midpoint = document.getElementById("midpoint");
78     let ctxmidpoint = midpoint.getContext("2d");
79
80     function drawmidpoint(x0, y0, r) {
81         let x = r;
82         let y = 0;
83         let d = r - 1;

```

```

84         while (x >= y) {
85             ctxmidpoint.fillRect(x0 + x, y0 + y, 1, 1);
86             ctxmidpoint.fillRect(x0 - x, y0 + y, 1, 1);
87             ctxmidpoint.fillRect(x0 + x, y0 - y, 1, 1);
88             ctxmidpoint.fillRect(x0 - x, y0 - y, 1, 1);
89             ctxmidpoint.fillRect(x0 + y, y0 + x, 1, 1);
90             ctxmidpoint.fillRect(x0 - y, y0 + x, 1, 1);
91             ctxmidpoint.fillRect(x0 + y, y0 - x, 1, 1);
92             ctxmidpoint.fillRect(x0 - y, y0 - x, 1, 1);
93         }

```

```

94         if (d >= 2 * y) {
95             d -= 2 * y + 1;
96             y++;
97         } else if (d < 2 * (r - x)) {
98             d += 2 * x - 1;
99             x--;
100         } else {
101             d += 2 * (x - y - 1);
102             x--;
103             y++;
104         }
105     }
106 }
107 </script>
108 </body>
109 </html>

```

LINGKARAN BRESENHAM DAN MIDPOINT

X: Y: Radius: Warna:

