TUGAS PEMBUATAN KURVA BEZIER

“laporan ini diajukan guna memenuhi tugas mata kuliah grafika komputer”

Dosen Pengampu:

1) Febi Eka Febriansyah, M.T.
2) Wartariyus, S.Kom., M.T.I.
3) Putut Aji Nalendro, S.Pd., M.Pd.

Disusun Oleh:

Nama: Isnaya Apriliani

NPM: 2413025050

Kelas: PTI24B

PROGRAM STUDI PENDIDIKAN TEKNOLOGI INFORMASI

JURUSAN PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM

FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN

UNIVERSITAS LAMPUNG

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CODE:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Kurva Bezier Cubic - Dua Awan dan Pohon</title>
  <style>
    canvas {
      border: 2px solid #87CEEB;
    }
    h1 {
      text-align: center;
    }
  </style>
</head>
<body>
  <h1>MEMBUAT POHON DAN AWAN</h1>
  <canvas id="canvas" width="800" height="800"></canvas>
  <a href="index.html">Kembali ke home</a>

  <script>
    const canvas = document.getElementById("canvas");
    const ctx = canvas.getContext("2d");

    // Fungsi menggambar kurva Bezier
    function drawBezierCurve(ctx, points, color) {
      ctx.beginPath();
      ctx.moveTo(points[0].x, points[0].y);
      ctx.strokeStyle = color;
      ctx.fillStyle = color;
      for (let i = 1; i < points.length - 2; i += 3) {
        ctx.bezierCurveTo(
          points[i].x, points[i].y,
          points[i + 1].x, points[i + 1].y,
          points[i + 2].x, points[i + 2].y
        );
      }
      ctx.fill();
      ctx.closePath();
      ctx.stroke();
    }

    // Daun 1
    const Daun1_points = [
      {x: 280, y: 320},
      {x: 190, y: 340},
      {x: 200, y: 225},
      {x: 240, y: 200},
      {x: 280, y: 190},
      {x: 280, y: 220},
      {x: 280, y: 205},
      {x: 270, y: 200},
      {x: 360, y: 120},
      {x: 380, y: 220},
      {x: 510, y: 210},
      {x: 410, y: 410},
      {x: 295, y: 310},
      {x: 250, y: 145},
      {x: 370, y: 110},
      {x: 400, y: 180},
      {x: 430, y: 180},
      {x: 460, y: 250},
      {x: 380, y: 300},
      {x: 340, y: 310},
      {x: 290, y: 300},
      {x: 250, y: 320},
      {x: 280, y: 190},
      {x: 200, y: 150},
      {x: 370, y: 160},
      {x: 240, y: 90}
```

```
71    ];
72    drawBezierCurve(ctx, Daun1_points, "yellow");
73
74    // Daun 2
75    const Daun2_points = Daun1_points.map(point => ({
76      x: point.x - 200,
77      y: point.y - 120
78    }));
79    drawBezierCurve(ctx, Daun2_points, "orange");
80
81    // Semak 1
82    const Semak1_points = [
83      {x: 150, y: 410},
84      {x: 190, y: 320},
85      {x: 200, y: 430},
86      {x: 210, y: 370},
87      {x: 240, y: 390},
88      {x: 255, y: 400},
89      {x: 250, y: 375},
90      {x: 370, y: 440},
91      {x: 150, y: 400},
92      {x: 150, y: 410}
93    ];
94    drawBezierCurve(ctx, Semak1_points, "forestgreen");
95
96    // Semak 2
97    const Semak2_points = Semak1_points.map(point => ({
98      x: point.x + 190,
99      y: point.y - 10
100   }));
101   drawBezierCurve(ctx, Semak2_points, "forestgreen");
102
103   // Semak 3
104   const Semak3_points = Semak1_points.map(point => ({
105     x: point.x - 150,
```

```
105     x: point.x - 150,
106     y: point.y - 80
107   }));
108   drawBezierCurve(ctx, Semak3_points, "forestgreen");
109
110   // Pohon 1
111   const branchPoints1 = [
112     {x: 310, y: 480},
113     {x: 310, y: 320},
114     {x: 310, y: 310},
115     {x: 300, y: 290},
116     {x: 180, y: 185},
117     {x: 330, y: 345},
118     {x: 325, y: 245},
119     {x: 330, y: 360},
120     {x: 460, y: 190},
121     {x: 350, y: 310},
122     {x: 350, y: 470},
123     {x: 350, y: 370},
124     {x: 350, y: 480}
125   ];
126   drawBezierCurve(ctx, branchPoints1, "tan");
127
128   // Pohon 2
129   const branchPoints2 = branchPoints1.map(point => ({
130     x: point.x - 200,
131     y: point.y - 120
132   }));
133   drawBezierCurve(ctx, branchPoints2, "tan");
134
135   // Awan 1
136   const cloud1_points = [
137     {x: 370, y: 100},
138     {x: 265, y: 100},
139     {x: 200, y: 105},
```

```
      {x: 268, y: 75},
      {x: 250, y: 80},
      {x: 300, y: 30},
      {x: 330, y: 70},
      {x: 370, y: 70},
      {x: 370, y: 100}
    ];
    drawBezierCurve(ctx, cloud1_points, "skyblue");

    // Awan 2
    const cloud2_points = [
      {x: 465, y: 150},
      {x: 350, y: 145},
      {x: 300, y: 155},
      {x: 368, y: 125},
      {x: 350, y: 135},
      {x: 385, y: 80},
      {x: 430, y: 120},
      {x: 400, y: 120},
      {x: 450, y: 150}
    ];
    drawBezierCurve(ctx, cloud2_points, "skyblue");

    // Resize canvas (optional)
    window.addEventListener("resize", () => {
      canvas.width = window.innerWidth;
      canvas.height = window.innerHeight;
      // (Redraw bisa ditambahkan di sini kalau mau responsif)
    });
  </script>
</body>
</html>
```

OUTPUT:

LINK VIDEO:

https://youtu.be/wYD0mWLX1aA?si=1C-jKaPNU7hLY_Pm