<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <title>MNIST Digit Classifier (Demo)</title>

  <style>

    body {

      font-family: Arial, sans-serif;

      text-align: center;

      background-color: #f5f5f5;

      padding-top: 30px;

    }

    h1 {

      color: #333;

    }

    canvas {

      border: 2px solid #333;

      background-color: black;

      cursor: crosshair;

      touch-action: none;

    }

    button {

      margin: 10px;

      padding: 10px 20px;

      font-size: 16px;

      cursor: pointer;

    }

    #result {

      font-size: 24px;

      margin-top: 20px;

      color: green;

    }

  </style>

</head>

<body>

  <h1>Draw a Digit </h1>

  <canvas id="canvas" width="280" height="280"></canvas><br>

  <button onclick="clearCanvas()">Clear</button>

  <button onclick="submitCanvas()">Predict</button>

  <div id="result"></div>

  <script>

    const canvas = document.getElementById('canvas');

    const ctx = canvas.getContext('2d');

    let painting = false;

    ctx.fillStyle = "black";

    ctx.fillRect(0, 0, canvas.width, canvas.height);

    ctx.strokeStyle = "white";

    ctx.lineWidth = 15;

    ctx.lineCap = "round";

    function getPosition(e) {

      const rect = canvas.getBoundingClientRect();

      return {

        x: (e.clientX || e.touches[0].clientX) - rect.left,

        y: (e.clientY || e.touches[0].clientY) - rect.top

      };

    }

    function startDraw(e) {

      painting = true;

      draw(e);

    }

    function endDraw() {

      painting = false;

      ctx.beginPath();

    }

    function draw(e) {

      if (!painting) return;

      const pos = getPosition(e);

      ctx.lineTo(pos.x, pos.y);

      ctx.stroke();

      ctx.beginPath();

      ctx.moveTo(pos.x, pos.y);

    }

    canvas.addEventListener('mousedown', startDraw);

    canvas.addEventListener('mouseup', endDraw);

    canvas.addEventListener('mousemove', draw);

    canvas.addEventListener('touchstart', startDraw);

    canvas.addEventListener('touchend', endDraw);

    canvas.addEventListener('touchmove', draw);

    function clearCanvas() {

      ctx.fillRect(0, 0, canvas.width, canvas.height);

      ctx.beginPath();

      document.getElementById('result').innerText = '';

    }

    function submitCanvas() {

      // DEMO ONLY — Replace this with a real API call

      const simulatedPrediction = Math.floor(Math.random() \* 10);

      document.getElementById('result').innerText = 'Predicted ' ;

    }

  </script>

</body>

</html>