<!DOCTYPE html>

<html>

<head>

</head>

<body>

  <table width=100% border=1 height=100%>

    <tr>

      <td align="center">

        <canvas id="myCanvas" width=1600 height="800" style="border:1px solid #d3d3d3;">

          Your browser does not support the HTML5 canvas tag.</canvas>

      </td>

    </tr>

  </table>

  <button onclick="myVar = setTimeout(bola, 1000)">atur posisi bola</button>

  <button onclick="myVar = setTimeout(jatuh, 1000);timerku()">jatuh</button>

  <p id="demo"></p>

  <p id="jam"></p>

  <form id="frm1" action="/action\_page.php">

    1x : <input type="text" name="fname" id="xawal" placeholder="Masukkan Angka x" value=0>

    1y : <input type="text" name="lname" id="yawal" placeholder="Masukkan Angka y" value=350>

    <br>

    ax : <input type="text" name="fname" id="axawal" placeholder="Masukkan Angka x" value=0>

    ay : <input type="text" name="lname" id="ayawal" placeholder="Masukkan Angka y" value=50>

    <br>

    bx : <input type="text" name="fname" id="bxawal" placeholder="Masukkan Angka x" value=0>

    by : <input type="text" name="lname" id="byawal" placeholder="Masukkan Angka y" value=50>

    <br>

    cx : <input type="text" name="fname" id="cxawal" placeholder="Masukkan Angka x" value=0>

    cy : <input type="text" name="lname" id="cyawal" placeholder="Masukkan Angka y" value=50>

    <br>

    dx : <input type="text" name="fname" id="dxawal" placeholder="Masukkan Angka x" value=0>

    dy : <input type="text" name="lname" id="dyawal" placeholder="Masukkan Angka y" value=50>

    <br>

  </form>

  <script>

    //https://iwant2study.org/lookangejss/02\_newtonianmechanics\_2kinematics/ejss\_model\_freefall01/freefall01\_Simulation.xhtml

    //https://www.kompas.com/skola/read/2020/10/05/131821169/gerak-lurus-beraturan-glb-dan-gerak-lurus-berubah-beraturan-glbb?page=all

    var x = document.getElementById("frm1");

    var seconds = 0,

      minutes = 0,

      hours = 0,

      x1 = parseInt(x.elements[0].value),

      y1 = parseInt(x.elements[1].value),

      t;

    var canvas = document.getElementById('myCanvas'),

      gerak = true;

      gerak1= true;

    context = canvas.getContext('2d');

    var width = (canvas.scrollWidth) / 2;

    var height = (canvas.scrollHeight) / 2;

    bola();

    caption();

    function bola() {

      base\_image = new Image();

      base\_image.src = 'ball.png';

      base\_image.onload = function () {

        context.drawImage(base\_image, width + x1, height - y1, 50, 50);

        context.beginPath();

  //membuat garis vertikal

  context.moveTo(width,0);

  context.lineTo(width,canvas.scrollHeight);

  //membuat garis horizontal

  context.moveTo(0,height);

  context.lineTo(canvas.scrollWidth,height);

  context.stroke();

        caption();

      }

    }

    function caption() {

      var c = document.getElementById("myCanvas");

      var ctx = c.getContext("2d");

      var width = (c.scrollWidth) / 2;

      var height = (c.scrollHeight) / 2;

      var imgData = ctx.createImageData(1, 1);

      for (var i = 0; i < imgData.data.length; i += 4) {

        imgData.data[i + 0] = 255;

        imgData.data[i + 1] = 0;

        imgData.data[i + 2] = 255;

        imgData.data[i + 3] = 255;

      }

      ctx.putImageData(imgData, width + 100, height - 100);

      var ctx = canvas.getContext("2d");

      ctx.font = "11px Arial";

      ctx.fillText("0", width, height);

      ctx.fillText("50", width, height - 50);

      ctx.fillText("100", width, height - 100);

      ctx.fillText("150", width, height - 150);

      ctx.fillText("200", width, height - 200);

      ctx.fillText("250", width, height - 250);

      ctx.fillText("300", width, height - 300);

      ctx.fillText("350", width, height - 350);

      ctx.fillText("400", width, height - 400);

    }

    function jatuh() {

      if (gerak == true) {

        setInterval(waktu, 10);

      } else if (gerak == false) {

        setInterval(waktu, 10);

      }

    }

    function waktu() {

      //gerak();

      if (y1 == 20) {

        gerak = false;

        geseratas();

      } else if (y1 == 350) {

        gerak = true;

        geserbawah();

      } else if (x1 == 750) {

        setInterval(waktu2, 10);

      } else if (gerak == true) {

        geserbawah();

      } else if (gerak == false) {

        geseratas();

      }

    }

    function waktu2() {

      //gerak();

      if (y1 == 20) {

        gerak = false;

        geserkanan();

      } else if (y1 == 350) {

        gerak = true;

        geserkiri();

      } else if (x1 == 0) {

        setInterval(waktu, 10);

      } else if (gerak == true) {

        geserkiri();

      } else if (gerak == false) {

        geserkanan();

      }

    }

    function bersihkan() {

      var c = document.getElementById("myCanvas");

      var ctx = c.getContext("2d");

      ctx.clearRect(0, 0, c.width, c.height);

      ctx.beginPath();

    }

    function geserkanan() {

      myVar = setTimeout(bersihkan, 50)

      x1--;

      y1++;

      t = setTimeout(bola, 50);

      text =

        "x1 : " + x1 + "<br>" +

        "y1 : " + y1 + "<br>";

      document.getElementById("demo").innerHTML = text;

    }

    function geserkiri() {

      myVar = setTimeout(bersihkan, 50)

      x1--;

      y1--;

      t = setTimeout(bola, 50);

      text =

        "x1 : " + x1 + "<br>" +

        "y1 : " + y1 + "<br>";

      document.getElementById("demo").innerHTML = text;

    }

    function geseratas() {

      myVar = setTimeout(bersihkan, 50)

      y1++;

      x1++;

      t = setTimeout(bola, 50);

      text =

        "x1 : " + x1 + "<br>" +

        "y1 : " + y1 + "<br>";

      document.getElementById("demo").innerHTML = text;

    }

    function geserbawah() {

      myVar = setTimeout(bersihkan, 50)

      y1--;

      x1++;

      t = setTimeout(bola, 50);

      text =

        "x1 : " + x1 + "<br>" +

        "y1 : " + y1 + "<br>";

      document.getElementById("demo").innerHTML = text;

    }

    function timerku(){

      if (gerak == true) {

        var jam = setInterval(detiks, 1000);

      } else if (gerak == false) {

        clearInterval(jam);

      }

    }

    function detiks(){

      if ((y1 == 20) && (gerak == true)) {

        gerak = false;

      } else if ((y1 == 350) && (gerak == false)) {

        gerak = true;

        seconds++;

      }

      else if (gerak == true) {

        seconds++;

      } else if (gerak == false) {

        //geseratas();

      }

    text =

        "waktu: " + seconds + "<br>";

      document.getElementById("jam").innerHTML = text;

    }

  </script>

</body>

</html>