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package grafica;

import java.applet.*;
import java.awt.*;

import java.awt.geom.*;

public class GraficInitial extends Applet
{

float f(double x)
{
    return (float)(Math.sin(10*x)*x);
}

void grafic (Vizual2D v, Graphics g, float xmin, float xmax, float pas)
{
    // traseaza graficul unei functii matematice, in intervalul xmin- xmax
    float x,y,x1,y1,x2,y2;

    // calculeaza incadrarea graficului pe axa OY in intervalul xmin - xmax
    y1=y2=f(xmin);
    for(x=xmin+pas;x<xmax;x+=pas)
    {
        if((y=f(x))<y1) y1=y;
        if(y>y2)y2=y;
    }
    if((y=f(xmax))<y1) y1=y;
    if(y>y2)y2=y;

    // Include axele in fereastra
    if(0<xmin)x1=0; else x1=xmin;
    if(0<y1)y1=0;
    if(0>xmax)x2=0; else x2=xmax;
    if(0>y2)y2=0;

    v.fereastra(x1,y1,x2,y2);

    g.setColor(Color.black);
    v.cadruPoarta(g);

    // traseaza axele
    g.setColor(Color.blue);
    g.drawLine(v.xDisp(x1),v.yDisp(0), v.xDisp(x2),v.yDisp(0)); // axa Ox
    g.drawLine(v.xDisp(0),v.yDisp(y1), v.xDisp(0),v.yDisp(y2)); // axa OY

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// traseaza graficul
g.setColor(Color.red);

for(x=xmin;x<xmax-pas;x+=pas)
    g.drawLine(v.xDisp(x), v.yDisp(f(x)),v.xDisp(x+pas),v.yDisp(f(x+pas)));
g.drawLine(v.xDisp(x), v.yDisp(f(x)),v.xDisp(xmax),v.yDisp(f(xmax)));
}

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/*
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void grafic(Vizual2D v, Graphics g, float xmin, float xmax, float pas)
{ // afiseaza graficul unei functii matematice

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// utilizeaza clasa Graphics2D

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float x, y, x1, y1, x2, y2;
Graphics2D g2D = (Graphics2D) g;

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AffineTransform transformareInitiala = g2D.getTransform();

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// calculeaza fereastra care incadreaza graficul

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y1 = y2 = f(xmin);
for (x = xmin + pas; x < xmax; x += pas)
{
    if ((y = f(x)) < y1)    y1 = y;
    if (y > y2) y2 = y;
}

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if ((y = f(xmax)) < y1) y1 = y;
if (y > y2) y2 = y;

```

```

// Include axele in fereastra

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```

if (0 < xmin) x1 = 0;
else    x1 = xmin;
if (0 < y1) y1 = 0;
if (0 > xmax) x2 = 0;
else    x2 = xmax;
if (0 > y2) y2 = 0;

```

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v.fereastra(x1, y1, x2, y2);

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g.setColor(Color.black);
v.cadruPoarta(g);

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g2D.setTransform(v.matrice());

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g2D.setStroke(new BasicStroke(0));

// afisare axe
g2D.setColor(Color.blue);

g2D.draw(new Line2D.Float(0.f, y1, 0.f, y2));

g2D.draw(new Line2D.Float(x1, 0.f, x2, 0.f));

// afisare grafic
g2D.setColor(Color.red);

for (x = xmin; x < xmax - pas; x += pas)
    g2D.draw(new Line2D.Float(x, f(x), x + pas, f(x + pas)));
g2D.draw(new Line2D.Float(x, f(x), xmax, f(xmax)));

g2D.setTransform(transformareInitiala);

}

*/

}
```