

Богатов Р.Н.

Программирование на языке высокого уровня

Лекция 8.

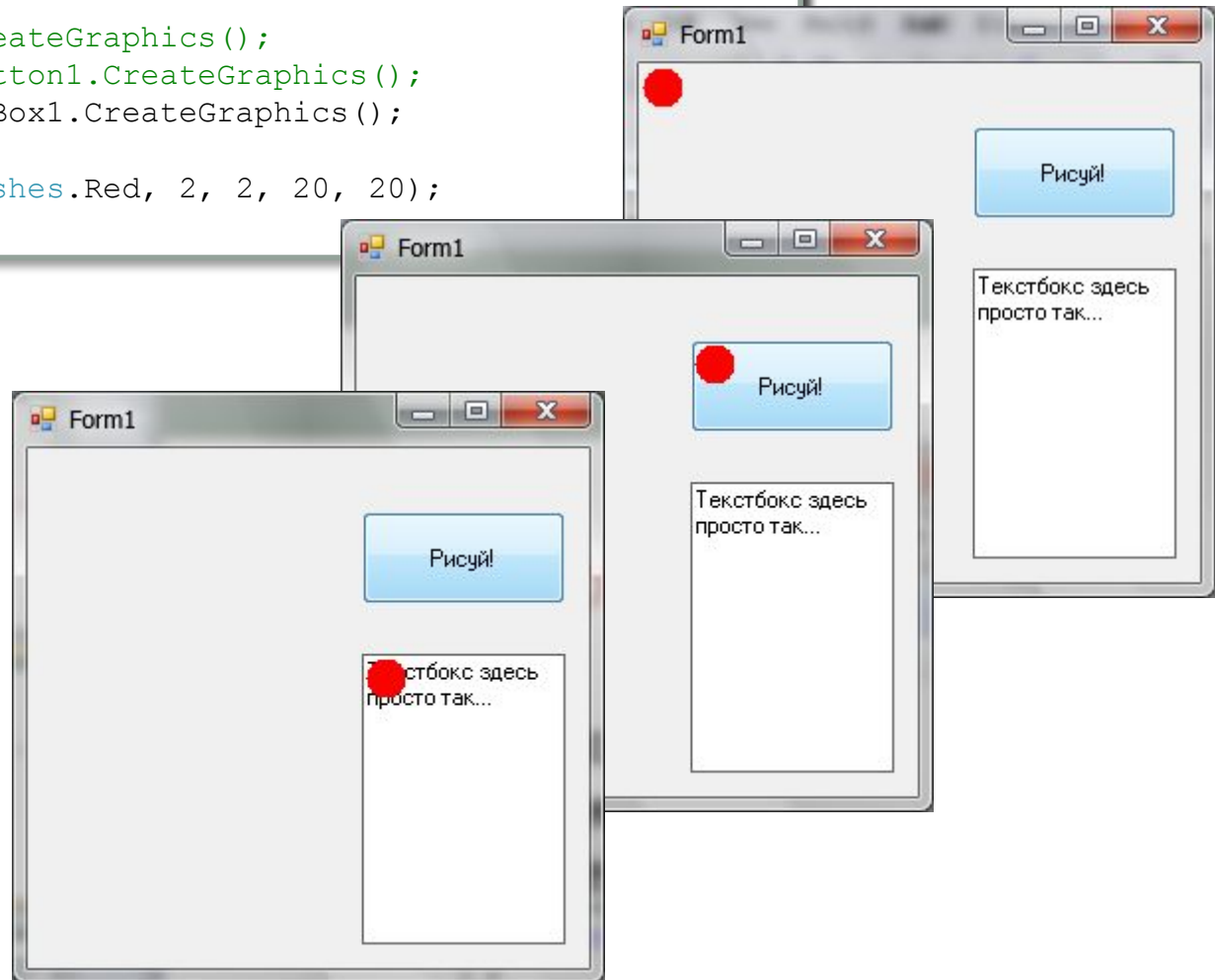
Графика в C#

Кафедра АСОИУ ОмГТУ, 2012

Программирование графики

```
private void button1_Click(object sender, EventArgs e)
{
    //Graphics g = CreateGraphics();
    //Graphics g = button1.CreateGraphics();
    Graphics g = textBox1.CreateGraphics();

    g.FillEllipse(Brushes.Red, 2, 2, 20, 20);
}
```



Программирование графики. PictureBox

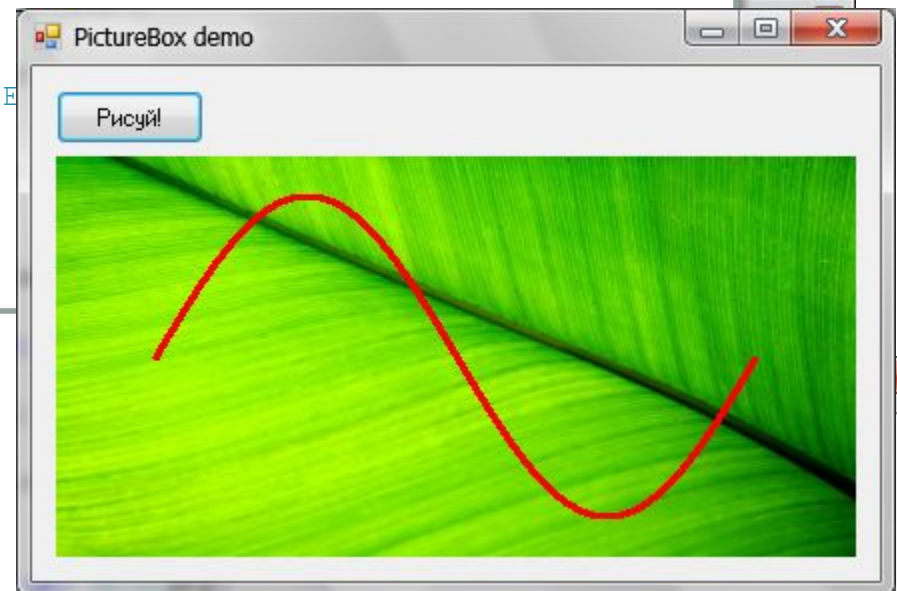
```
bool Рисовать = false;

private void button1_Click(object sender, EventArgs e)
{
    Рисовать = true;
    pictureBox1.Refresh();
}
```

```
Point[] a = new Point[0];
```

```
private void button1_Click(object sender, EventArgs e)
{
    a = new Point[300];
    for (int i = 0; i < 300; i++)
    {
        a[i].X = 50+i;
        a[i].Y = (int) (100-80*Math.Sin(6.28*i/300));
    }
    pictureBox1.Refresh();
}
```

```
private void pictureBox1_Paint(object sender, PaintEventArgs e)
{
    Graphics g = e.Graphics;
    foreach (Point t in a)
        g.FillEllipse(Brushes.Red, t.X - 2, t.Y - 2, 4, 4);
}
```



Построение графика функции

```
int N = 0;
double[] X;
double[] Y;
double x1 = -1, x2
double Ymin, Ymax;

private void button
{
    x1 = Convert.To

private void pic
{
    Graphics g = e.Graphics;
    int mx = pictureBox1.Size.Width - 1,
        my = pictureBox1.Size.Height - 1;
    g.DrawLine(Pens.Black, 0, my/2, mx, my/2);
    g.DrawLine(Pens.Black, mx / 2, 0, mx / 2, my);
    g.DrawString("Xmin=" + x1, label1.Font, Brushes.Black,
    g.DrawString("Xmax=" + x2, label1.Font, Brushes.Black,
    g.DrawString("Ymin=" + Ymin, label1.Font, Brushes.Black,
    g.DrawString("Ymax=" + Ymax, label1.Font, Brushes.Black,

    double kx = 0.8 * pictureBox1.Size.Width / (x2 - x1);
    double ky = 0.8 * pictureBox1.Size.Height / (Ymax - Ymin);
    for (int i = 0; i < N; i++)
        g.FillEllipse(Brushes.Red,
            (int)(0.1 * mx + kx * (X[i] - x1) - 2),
            (int)(0.9 * my - ky * (Y[i] - Ymin) - 2), 4, 4);
}
```

