Problem 4

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Problem4

{

public partial class Form1 : Form

{

public Form1()

{

this.BackColor = Color.White;

this.MouseDown += Form1\_MouseDown;

}

int ctLeft = 0;

int x1 = 0, y1 = 0; //left top

int x2 = 0, y2 = 0; //left bottom

int x3 = 0, y3 = 0; //right top

int x4 = 0, y4 = 0; //right bottom

public int deltaX = 0;

public int deltaY = 0;

List<Form1> L = new List<Form1>();

private void Form1\_MouseDown(object sender, MouseEventArgs e)

{

if (e.Button == MouseButtons.Left)

{

ctLeft++;

if(ctLeft == 1)

{

Form1 pnn = new Form1();

pnn.Show();

pnn.Location = new Point(this.Location.X - this.ClientSize.Width, this.Location.Y - this.ClientSize.Height - 20);

pnn.BackColor = Color.Red;

x1 = this.Location.X - this.ClientSize.Width;

y1 = this.Location.Y - this.ClientSize.Height - 20;

pnn.deltaX = 0;

pnn.deltaY = -1;

L.Add(pnn);

}

if (ctLeft == 2)

{

Form1 pnn = new Form1();

pnn.Show();

pnn.Location = new Point(this.Location.X - this.ClientSize.Width, this.Location.Y + this.ClientSize.Height + 20);

pnn.BackColor = Color.Yellow;

x2 = this.Location.X - this.ClientSize.Width;

y2 = this.Location.Y + this.ClientSize.Height + 20;

pnn.deltaX = 1;

pnn.deltaY = 0;

L.Add(pnn);

}

if (ctLeft == 3)

{

Form1 pnn = new Form1();

pnn.Show();

pnn.Location = new Point(this.Location.X + this.ClientSize.Width, this.Location.Y - this.ClientSize.Height - 20);

pnn.BackColor = Color.Orange;

x3 = this.Location.X + this.ClientSize.Width;

y3 = this.Location.Y - this.ClientSize.Height - 20;

pnn.deltaX = -1;

pnn.deltaY = 0;

L.Add(pnn);

}

if (ctLeft == 4)

{

Form1 pnn = new Form1();

pnn.Show();

pnn.Location = new Point(this.Location.X + this.ClientSize.Width, this.Location.Y + this.ClientSize.Height + 20);

pnn.BackColor = Color.Green;

x4 = this.Location.X + this.ClientSize.Width;

y4 = this.Location.Y + this.ClientSize.Height + 20;

pnn.deltaX = 0;

pnn.deltaY = 1;

L.Add(pnn);

}

}

else

{

for (; ;)

{

for (int i = 0; i < 4; i++)

{

if(L[i].deltaX == 1 && L[i].deltaY == 0)

{

L[i].Location = new Point(L[i].Location.X + 1, L[i].Location.Y);

}

else if(L[i].deltaX == -1 && L[i].deltaY == 0)

{

L[i].Location = new Point(L[i].Location.X - 1, L[i].Location.Y);

}

else if(L[i].deltaY == 1 && L[i].deltaX == 0)

{

L[i].Location = new Point(L[i].Location.X, L[i].Location.Y - 1);

}

else if(L[i].deltaY == -1 && L[i].deltaX == 0)

{

L[i].Location = new Point(L[i].Location.X, L[i].Location.Y + 1);

}

if (L[i].Location.X == x1 && L[i].Location.Y == y1)

{

L[i].deltaX = 0;

L[i].deltaY = -1;

}

if (L[i].Location.X == x2 && L[i].Location.Y == y2)

{

L[i].deltaX = 1;

L[i].deltaY = 0;

}

if (L[i].Location.X == x3 && L[i].Location.Y == y3)

{

L[i].deltaX = -1;

L[i].deltaY = 0;

}

if (L[i].Location.X == x4 && L[i].Location.Y == y4)

{

L[i].deltaX = 0;

L[i].deltaY = 1;

}

}

}

}

}

}

}

Problem 5

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Problem5

{

public partial class Form1 : Form

{

bool isDrag = false;

int xOld = -1;

int yOld = -1;

public Form1()

{

this.BackColor = Color.Black;

this.MouseDown += Form1\_MouseDown;

this.MouseMove += Form1\_MouseMove;

this.MouseUp += Form1\_MouseUp;

}

private void Form1\_MouseUp(object sender, MouseEventArgs e)

{

isDrag = false;

}

private void Form1\_MouseDown(object sender, MouseEventArgs e)

{

if (e.Button == MouseButtons.Left)

{

isDrag = true;

xOld = e.X;

yOld = e.Y;

this.BackColor = Color.Black;

}

}

private void Form1\_MouseMove(object sender, MouseEventArgs e)

{

if (isDrag == true)

{

int dx = e.X - xOld;

int dy = e.Y - yOld;

// Do

if (dx < 0)

{

dx = 0;

}

else if(dx > 255)

{

dx = 255;

}

if (dy < 0)

{

dy = 0;

}

else if (dy > 255)

{

dy = 255;

}

this.BackColor = Color.FromArgb(dx % 255, dy % 255, 0);

}

}

}

}

Problem 6

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Problem6

{

public partial class Form1 : Form

{

bool isDrag = false;

int xOld = -1;

int yOld = -1;

int ctRight=0;

public Form1()

{

this.BackColor = Color.Black;

this.MouseDown += Form1\_MouseDown;

this.MouseMove += Form1\_MouseMove;

this.MouseUp += Form1\_MouseUp;

}

List<Form> LRight = new List<Form>();

List<Form> LLeft = new List<Form>();

private void Form1\_MouseUp(object sender, MouseEventArgs e)

{

isDrag = false;

}

private void Form1\_MouseDown(object sender, MouseEventArgs e)

{

if (e.Button == MouseButtons.Left)

{

isDrag = true;

xOld = e.X;

yOld = e.Y;

}

else

{

ctRight++;

if (ctRight == 1)

{

for (int i = 0; i < 4; i++)

{

Form pnn = new Form();

pnn.Show();

pnn.BackColor = Color.Orange;

pnn.Size = new Size(150, 120);

int posY = this.Location.Y + (i \* 120);

pnn.Location = new Point(this.Location.X - 150, posY);

LLeft.Add(pnn);

}

}

else if(ctRight==2)

{

for (int i = 0; i < 4; i++)

{

Form pnn = new Form();

pnn.Show();

pnn.BackColor = Color.Red;

pnn.Size = new Size(150, 120);

int posY = this.Location.Y + (i \* 120);

pnn.Location = new Point(this.Location.X + this.ClientSize.Width + 15, posY);

LRight.Add(pnn);

}

}

}

}

private void Form1\_MouseMove(object sender, MouseEventArgs e)

{

if (isDrag == true)

{

int dy = e.Y - yOld;

for (int i = 0; i < 4; i++)

{

Form pTravR = LRight[i];

pTravR.Location = new Point(pTravR.Location.X, dy + (i \* 120));

Form pTravL = LLeft[i];

pTravL.Location = new Point(pTravL.Location.X, dy + (i \* 120));

}

}

}

}

}