private void button1\_Click(object sender, EventArgs e) {

int[,] BoardGray = new int[bitmap.Width + 6, bitmap.Height + 6];

label1.Text = "bitmap.Width :" + (bitmap.Width + 6) + ",

bitmap.Height : " + (bitmap.Height + 6) + "";

sigmaxsigma = double.Parse(textBox1.Text);

for (int i = 0; i < bitmap.Width + 6; i++){

for(int j = 0; j < bitmap.Height + 6; j++){

int toGetX, toGetY;//要從這個點存顏色

//處理x軸邊界問題

if (i < 3) {

toGetX = 0;

}else if (i >= bitmap.Width + 3) {

toGetX = bitmap.Width - 1;

}else{

toGetX = i - 3;

}

//處理y軸邊界問題

if (j < 3) {

toGetY = 0;

}else if (j >= bitmap.Height + 3) {

toGetY = bitmap.Height - 1;

}else{

toGetY = j - 3;

}

//建立用來做模糊化的圖片陣列

BoardGray[i, j] = imageGray[toGetX, toGetY];

}

}

for (int i = 3; i < bitmap.Width + 3; i++){

for (int j = 3; j < bitmap.Height + 3; j++){

//new出要用來算模糊用的陣列

int[,] GaussianPicksXGray = new int[7, 7];

int[,] GaussianPicksYGray = new int[7, 7];

//X軸中間為0

for (int gi = 0; gi < 7; gi++)

for (int gj = 0; gj < 7; gj++)

if (gi == 3)

GaussianPicksXGray[3, gj] = 0;

else

GaussianPicksXGray[gi, gj] =

BoardGray[i, j - 3 + gj] - BoardGray[i - 3 + gi, j - 3 + gj];

//Y軸中間為0

for (int gj = 0; gj < 7; gj++)

for (int gi = 0; gi < 7; gi++)

if (gj == 3)

GaussianPicksYGray[gi, 3] = 0;

else

GaussianPicksYGray[gi, gj] =

BoardGray[i - 3 + gi, j] - BoardGray[i - 3 + gi, j - 3 + gj];

//模糊化!

double sum = 0;

double denominator = 2 \* Math.PI \* sigmaxsigma;

for (int gi = 0; gi < 7; gi++){

for (int gj = 0; gj < 7; gj++){

double molecular =

Math.Exp(-1 \* (GaussianPicksXGray[gi, gj] \* GaussianPicksXGray[gi, gj] + GaussianPicksYGray[gi, gj] \* GaussianPicksYGray[gi, gj]) / (2 \* sigmaxsigma));

double tempSum = molecular / denominator;

sum = sum + tempSum;

}

}

//儲存

int temp = (int)sum;

int tempPoint = BoardGray[i, j];

int blurPoint = temp + tempPoint;

if (blurPoint > 255)

blurPoint = 255;//保險

imageGray[i - 3, j - 3] = blurPoint;

bitmap.SetPixel(i - 3, j - 3,

Color.FromArgb(blurPoint, blurPoint, blurPoint));

}

}

pictureBox1.Image = bitmap;

}