private double[, ,] readImage(Bitmap bmp)

{

Rectangle rect = new Rectangle(0, 0, bmp.Width,bmp.Height);

BitmapData bmpData = bmp.LockBits(rect,

ImageLockMode.ReadWrite, bmp.PixelFormat);

IntPtr ptr = bmpData.Scan0;

int bytes = Math.Abs(bmpData.Stride) \* bmp.Height;

byte[] rgbValues = new byte[bytes];

double[, ,] pixel =new double[bmp.Width,bmp.Height, 3];

System.Runtime.InteropServices.Marshal.Copy(ptr, rgbValues,0, bytes);

int count = 0;

for (int j = 0; j < bmp.Height; j++)

for (int i = 0; i < bmp.Width; i++)

for (int k = 0; k < 3; k++)

{

pixel[i,j,k]=Convert.ToDouble(rgbValues[count])/255;

count++;

}

bmp.UnlockBits(bmpData);

return pixel;

}

private void saveimage(double[,,] pixel,Bitmap bmp)

{

Rectangle rect = new Rectangle(0, 0, bmp.Width, bmp.Height);

BitmapData bmpData = bmp.LockBits(rect, ImageLockMode.ReadWrite, bmp.PixelFormat);

IntPtr ptr = bmpData.Scan0;

int bytes = Math.Abs(bmpData.Stride) \* bmp.Height;

byte[] rgbValues = new byte[bytes];

int count = 0;

for (int j = 0; j < pixel.GetLength(1); j++)

for (int i=0; i<pixel.GetLength(0); i++)

for(int k=0;k<pixel.GetLength(2);k++)

{

if (pixel[i, j, k] > 1)

pixel[i, j, k] = 1;

if (pixel[i, j, k] < 0)

pixel[i, j, k] = 0;

rgbValues[count] = Convert.ToByte (pixel[i, j, k] \* 255);

count++;

}

System.Runtime.InteropServices.Marshal.Copy(rgbValues, 0, ptr, bytes);

bmp.UnlockBits(bmpData);

}