MATLAB, Lab 8 – Individual work

1. The table below presents the exchange rate EUR-PLN at the beginning of the years 2000-2006.

Month/year	EUR - PLN
01/2006	3.78
01/2005	4.04
01/2004	4.66
01/2003	4.02
01/2002	3.60
01/2001	3.83
01/2000	4.13

   a. Use MATLAB **`interp1`** function in order to fill in the table below with approximated exchange rates in the middle of the years.

Month/year	EUR – PLN (linear interpolation)	EUR – PLN (cubic interpolation)
06/2005	3.98	3.9707
06/2004	3.715	3.6825
06/2003	3.81	3.7466
06/2002	4.34	4.4034
06/2001	4.35	4.3958
06/2000	3.91	3.8742

   b. Provide the syntax written to obtain data in table a (suppress output)

Code:

```
January = [0 12 24 36 48 60 72];
EUR_PLN = [4.13 3.83 3.60 4.02 4.66 4.04 3.78];
dates = linspace(6,66,6);

linear = interp1(January,EUR_PLN,dates,'linear')
cubic = interp1(January,EUR_PLN,dates,'pchip')
```

   c. Try to extrapolate the values provided in the first table in order to approximate the expected exchange rate in 01/2007

Month/year	EUR – PLN (linear extrapolation)	EUR – PLN (cubic extrapolation)
01/2007	3.52	4.0273

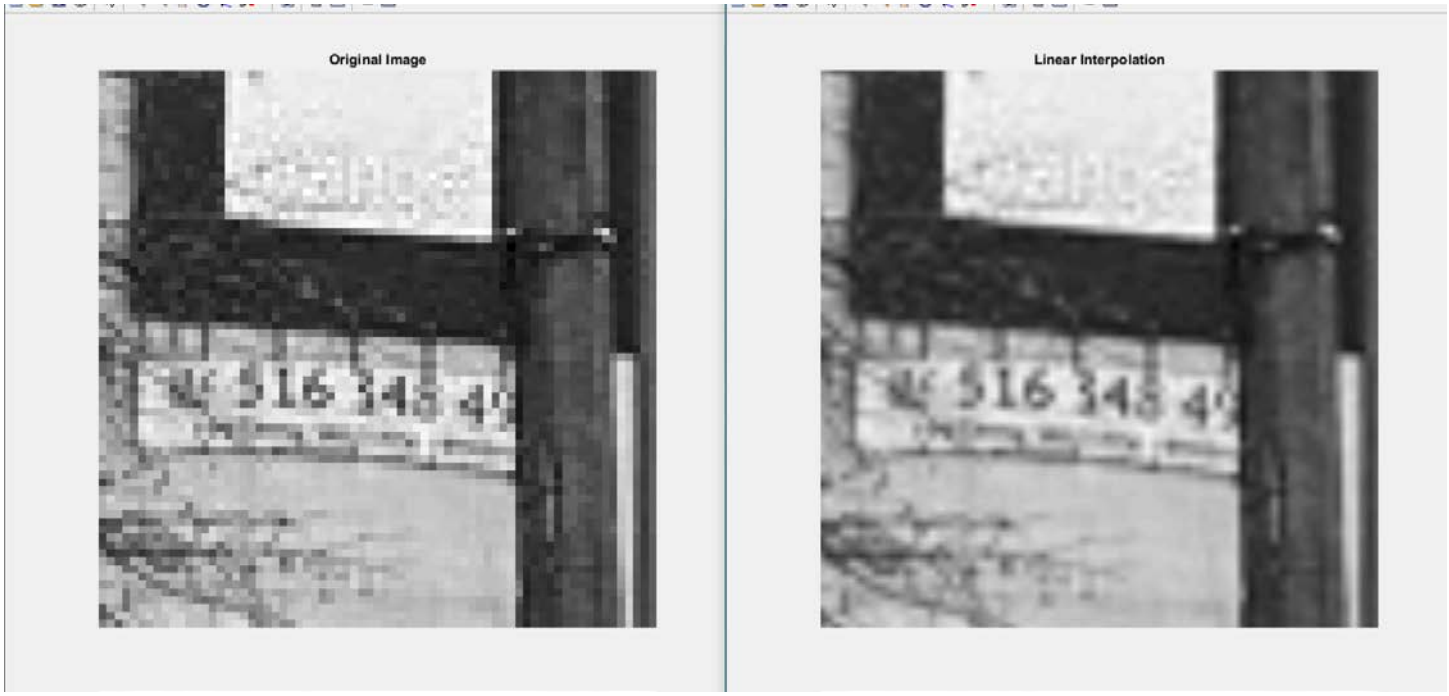
2. Load a street image ulica.jpg which presents one of the streets in Gdynia, a Polish coastal city. You find the photo in the folder placed in the appropriate Wikamp module. It is also presented below:

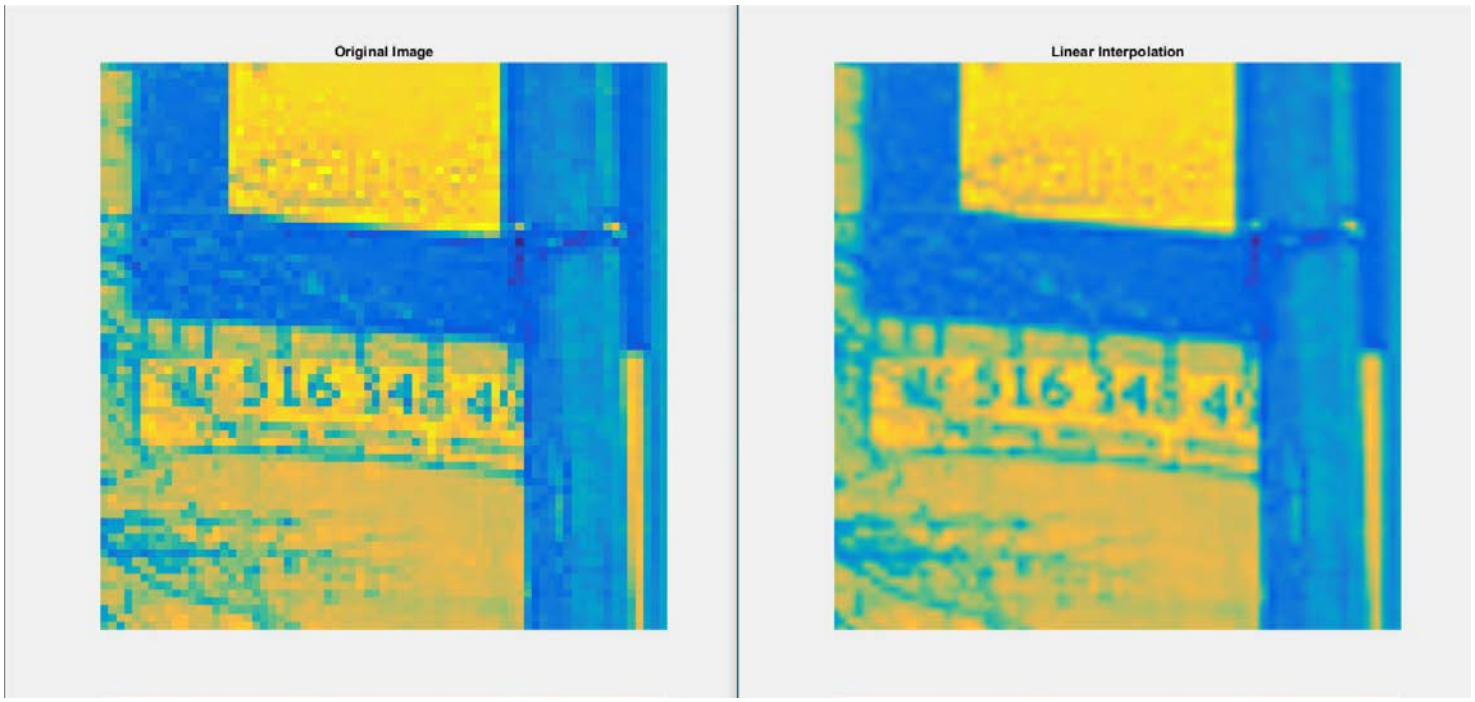
Notice that an area of the photo is marked with a red ellipse. This region contains a small plate with an inscription. Zooming onto it does reveal that it is in fact a number – probably a phone number of a company that advertises its services. It is however not easy to read.
Please use the interp2(V, k) function syntax to refine the selected photo area k times in order to improve the image quality. The interp2(V,k) returns the interpolated values on a refined grid (including RGB matrix of any photo) formed by repeatedly dividing the intervals k times in each dimension.

```
image = imread('ulica.jpg');
X = im2double(image);
V = (X(470:540,250:320));
figure
imagesc(V);
colormap gray
axis image
axis off
title('Original Image');

Vq = interp2(V,7); % If I try to make k number greater than 7
matlab gives error.
figure
imagesc(Vq);
```

```
colormap gray
axis image
axis off
title('Linear Interpolation');
```





I can’t read first digit if there is any.But as far as I can see ,number is 516 348 49 .