

```
A = imread('pastelky3.jpg');
B = rgb2gray(A);
imwrite(B,'pastelkygray.jpg');
```

```
imfinfo('pastelkygray.jpg')
```

```
ans = struct with fields:
    Filename: 'C:\Skola\vyuka2022-2023\ZS\POGR\matlab\pr2\pastelkygray.jpg'
    FileModDate: '30-Sep-2022 09:31:10'
    FileSize: 50729
    Format: 'jpg'
    FormatVersion: ''
    Width: 640
    Height: 426
    BitDepth: 8
    ColorType: 'grayscale'
    FormatSignature: ''
    NumberOfSamples: 1
    CodingMethod: 'Huffman'
    CodingProcess: 'Sequential'
    Comment: {}
```

```
B = imread('pastelkygray.jpg');
```

```
imwrite(B, 'p1.tif', 'resolution',[1000,1000]);
imfinfo('p1.tif')
```

```
ans = struct with fields:
    Filename: 'C:\Skola\vyuka2022-2023\ZS\POGR\matlab\pr2\p1.tif'
    FileModDate: '30-zář-2022 09:31:10'
    FileSize: 262714
    Format: 'tif'
    FormatVersion: []
    Width: 640
    Height: 426
    BitDepth: 8
    ColorType: 'grayscale'
    FormatSignature: [73 73 42 0]
    ByteOrder: 'little-endian'
    NewSubFileType: 0
    BitsPerSample: 8
    Compression: 'PackBits'
    PhotometricInterpretation: 'BlackIsZero'
    StripOffsets: [1×36 double]
    SamplesPerPixel: 1
    RowsPerStrip: 12
    StripByteCounts: [6886 6644 6961 6788 7039 7001 7360 7396 7492 7626 7666 7596 7512 7354 7361 7251 7321]
    XResolution: 1000
    YResolution: 1000
    ResolutionUnit: 'Inch'
    Colormap: []
    PlanarConfiguration: 'Chunky'
    TileWidth: []
    TileLength: []
    TileOffsets: []
    TileByteCounts: []
    Orientation: 1
    FillOrder: 1
    GrayResponseUnit: 0.0100
    MaxSampleValue: 255
```

```
MinSampleValue: 0
Thresholding: 1
Offset: 262236
```

```
imwrite(B, 'p2.tif', 'resolution', [500,500]);
imfinfo('p2.tif')
```

```
ans = struct with fields:
```

```
    Filename: 'C:\Skola\vyuka2022-2023\ZS\POGR\matlab\pr2\p2.tif'
    FileModDate: '30-zář-2022 09:31:10'
    FileSize: 262714
    Format: 'tif'
    FormatVersion: []
    Width: 640
    Height: 426
    BitDepth: 8
    ColorType: 'grayscale'
    FormatSignature: [73 73 42 0]
    ByteOrder: 'little-endian'
    NewSubFileType: 0
    BitsPerSample: 8
    Compression: 'PackBits'
    PhotometricInterpretation: 'BlackIsZero'
    StripOffsets: [1x36 double]
    SamplesPerPixel: 1
    RowsPerStrip: 12
    StripByteCounts: [6886 6644 6961 6788 7039 7001 7360 7396 7492 7626 7666 7596 7512 7354 7361 7251 7321]
    XResolution: 500
    YResolution: 500
    ResolutionUnit: 'Inch'
    Colormap: []
    PlanarConfiguration: 'Chunky'
    TileWidth: []
    TileLength: []
    TileOffsets: []
    TileByteCounts: []
    Orientation: 1
    FillOrder: 1
    GrayResponseUnit: 0.0100
    MaxSampleValue: 255
    MinSampleValue: 0
    Thresholding: 1
    Offset: 262236
```

```
imwrite(B, 'p3.tif', 'resolution', [250,250]);
imfinfo('p3.tif')
```

```
ans = struct with fields:
```

```
    Filename: 'C:\Skola\vyuka2022-2023\ZS\POGR\matlab\pr2\p3.tif'
    FileModDate: '30-zář-2022 09:31:10'
    FileSize: 262714
    Format: 'tif'
    FormatVersion: []
    Width: 640
    Height: 426
    BitDepth: 8
    ColorType: 'grayscale'
    FormatSignature: [73 73 42 0]
    ByteOrder: 'little-endian'
    NewSubFileType: 0
    BitsPerSample: 8
    Compression: 'PackBits'
    PhotometricInterpretation: 'BlackIsZero'
```

```

        StripOffsets: [1×36 double]
        SamplesPerPixel: 1
        RowsPerStrip: 12
        StripByteCounts: [6886 6644 6961 6788 7039 7001 7360 7396 7492 7626 7666 7596 7512 7354 7361 7251 7321]
        XResolution: 250
        YResolution: 250
        ResolutionUnit: 'Inch'
        Colormap: []
        PlanarConfiguration: 'Chunky'
        TileWidth: []
        TileLength: []
        TileOffsets: []
        TileByteCounts: []
        Orientation: 1
        FillOrder: 1
        GrayResponseUnit: 0.0100
        MaxSampleValue: 255
        MinSampleValue: 0
        Thresholding: 1
        Offset: 262236

```

```

A1 = imread('p1.tif');
A3 = imread('p3.tif');

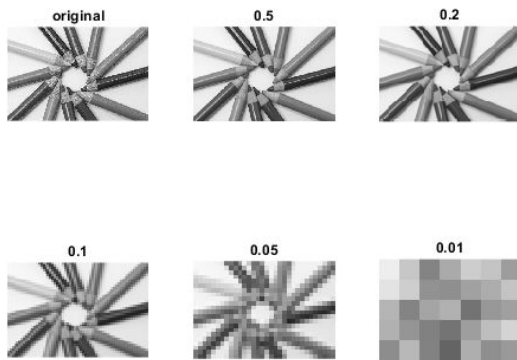
```

```

B1 = imresize(B,0.5);
B2 = imresize(B,0.2);
B3 = imresize(B,0.1);
B4 = imresize(B,0.05);
B5 = imresize(B,0.01);

subplot(2,3,1), imshow(B);
title('original');
subplot(2,3,2), imshow(B1);
title('0.5');
subplot(2,3,3), imshow(B2);
title('0.2');
subplot(2,3,4), imshow(B3);
title('0.1');
subplot(2,3,5), imshow(B4);
title('0.05');
subplot(2,3,6), imshow(B5);
title('0.01');

```



```
Bi = gray2ind(B,256);
Bi1 = gray2ind(B,64);
Bi2 = gray2ind(B,16);
Bi3 = gray2ind(B,8);
Bi4 = gray2ind(B,4);
Bi5 = gray2ind(B,2);
```

```
subplot(2,3,1), imshow(Bi,[]);
title('original');
subplot(2,3,2), imshow(Bi1,[]);
title('64');
subplot(2,3,3), imshow(Bi2,[]);
title('16');
subplot(2,3,4), imshow(Bi3,[]);
title('8');
subplot(2,3,5), imshow(Bi4,[]);
title('4');
subplot(2,3,6), imshow(Bi5,[]);
title('2');
```

