

1. Read an bmp image from a location in an harddrive, flip the image up-down and left-right.

```
a = imread('lena512.bmp');
```

```
subplot(2,2,1);  
imshow(a);
```

```
b = flipud(a);  
subplot(2,2,2);  
imshow(b);
```

```
c = fliplr(a);  
subplot(2,2,3)  
imshow(c);
```



2. Display the intensity of pixel in position (20,0) (511,511),(0,0) and relate it with picture

```
a = imread('/home/linuxsagar/Desktop/IP/Practical/Lab1/lena512.bmp');
```

```
p= a(20,0)
```

```
output: error: subscript indices must be either positive integers less  
than 2^31 or logicals
```

```
p = a(511,511)
```

```
output: p = 105
```

```
p = a(0,0)
```

```
output: error: subscript indices must be either positive integers less  
than 2^31 or logicals
```

3. Get the size of the image.

```
[row,columns]=size(a)
```

```
output:
```

```
row = 512
```

```
columns = 512
```

4. Writing an image to graphics file

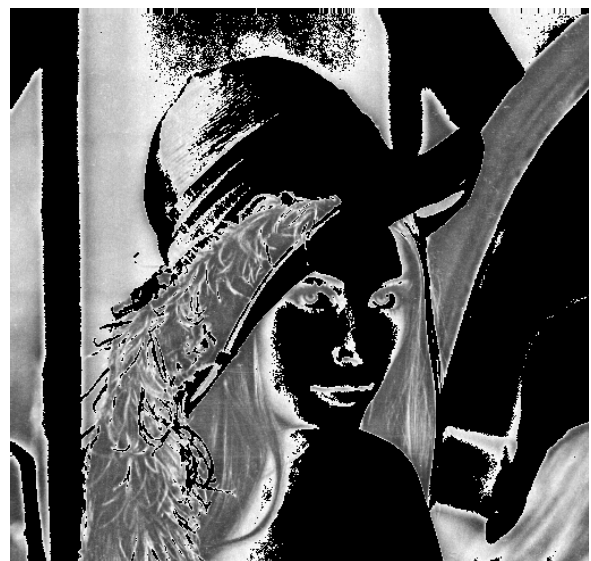
```
original=imread('lena512.bmp');
```

```
imwrite(original,gray(512),'changed.bmp');
```

OUTPUT:



original.bmp



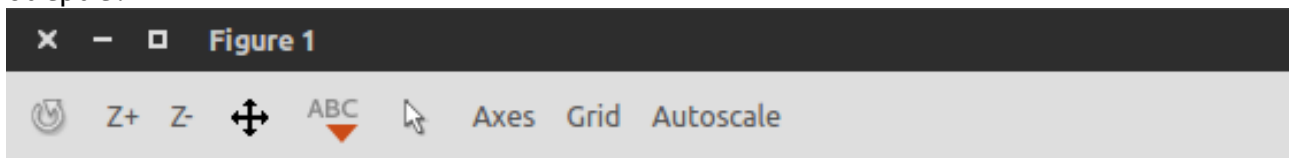
changed.bmp

d) Create an array of size 512 x 512 and assign values 1-512 to elements of rows. Then display it.:

```
for i = 1:1:255
    for j = 1:1:255
        a(i,j) = j;
    end
end
```

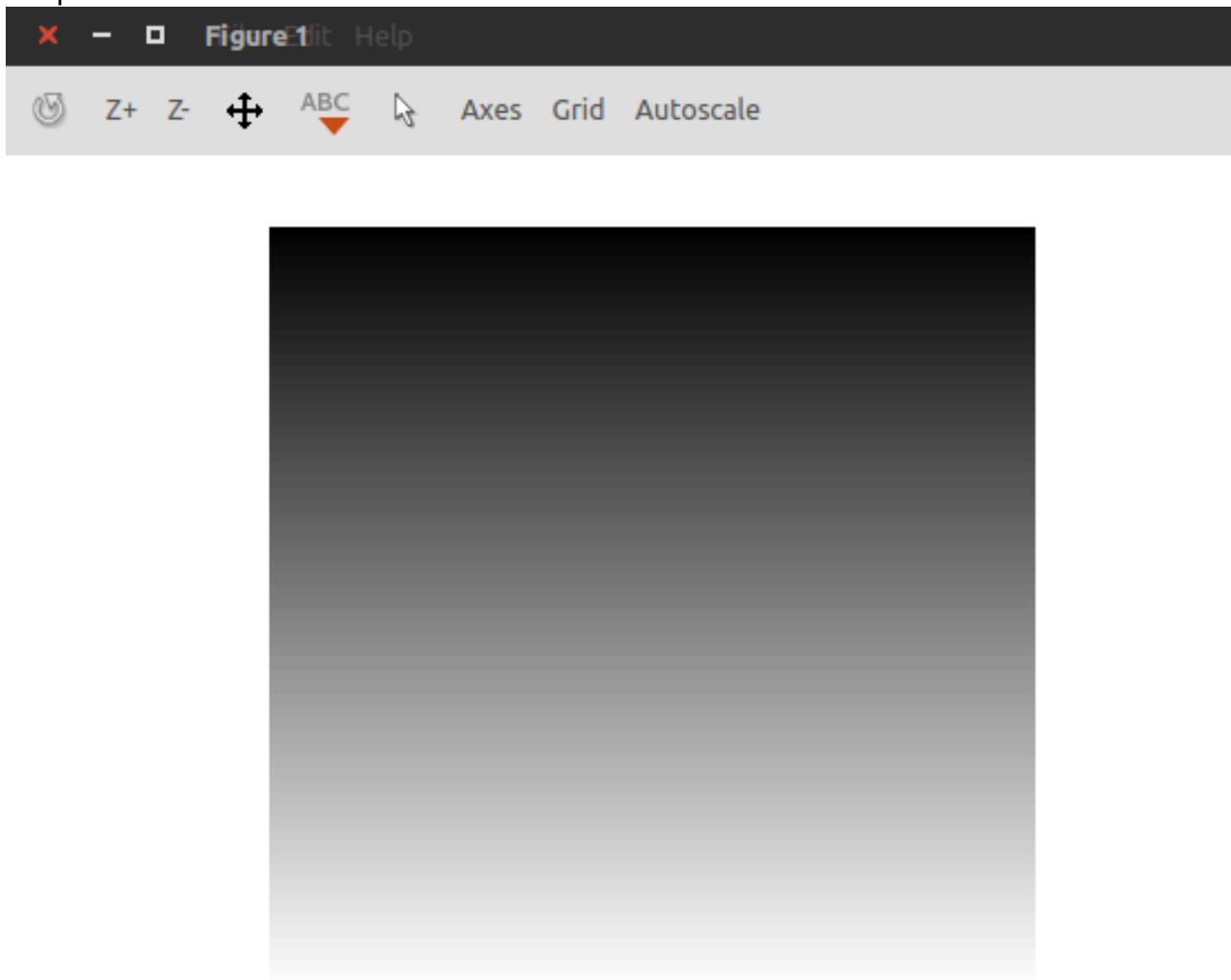
1) Display image created in d by a using function imshow(a).

Output:



2) Display image created in d by a using function `imshow(a,[0 255]);`

Output:



g) Observe the difference

```
for i = 1:1:255
    for j = 1:1:255
        a(i,j) = j;
    end
end
imwrite(a,'first.bmp')
imwrite(a,gray(256),'second.bmp');
```

Output:



second.bmp

first.bmp