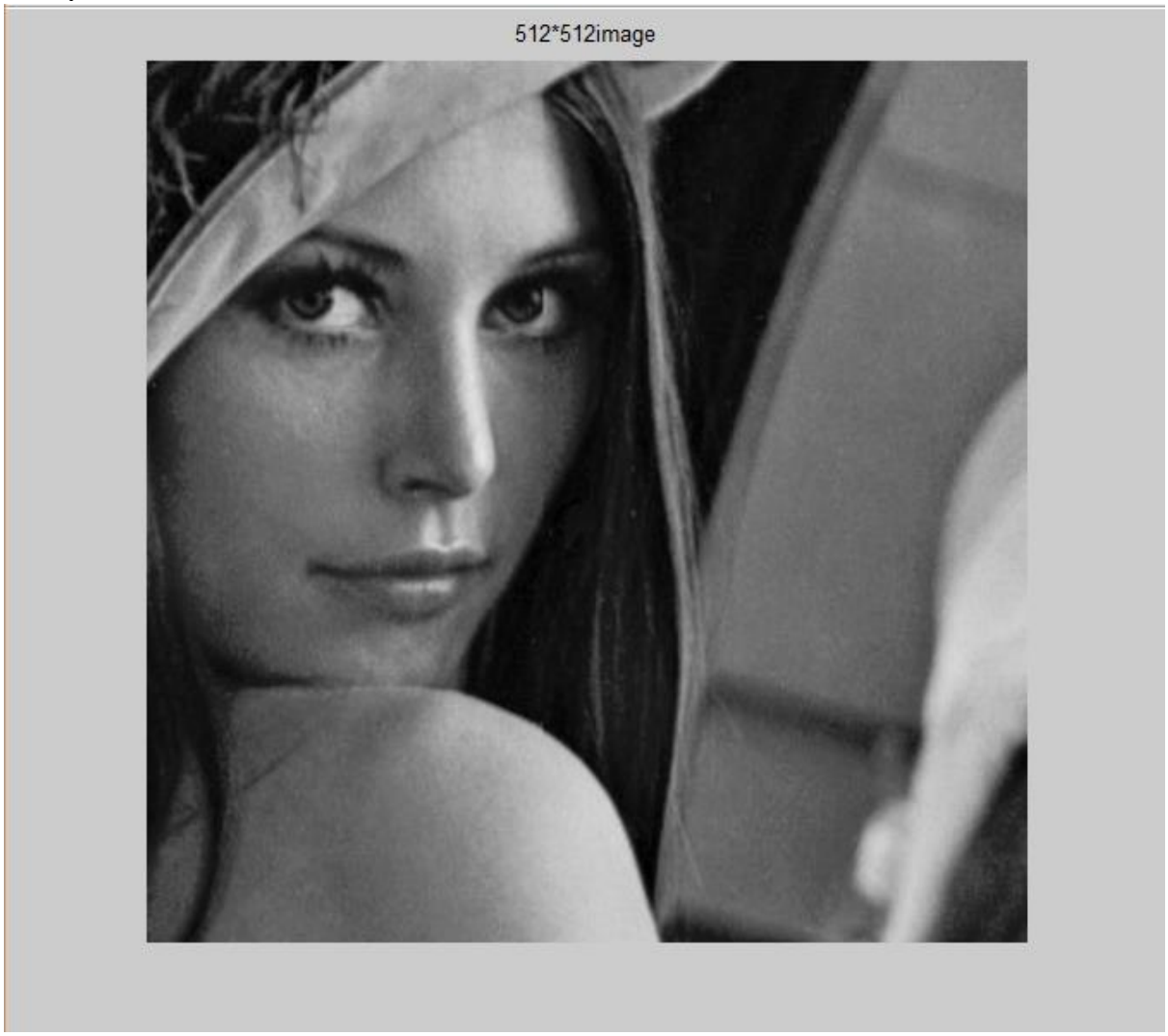
ASSIGNMENT 3

AIM 1:- Implement program of spatial resolution.

Code:-

```
I='lena.tif';
I=imread(I);
I=imresize(I,[512 512]);
num=512;
for i=1:4
a1 = i;
i1 = 1:a1:512;
I1 = I(i1,i1);

figure,imshow(I1);title(strcat(num2str(num),'*',num2str(num),'image'
));
num=num/2;
end
```

Output:-




256*256image


128*128image


64*64image

AIM 2:- Implement Program of Intensity resolution.

Code:-

```
I=uigetfile('*.*','Select the Image');
I=imread(I);
[r c] = size(I);
a=[1 3 7 15 31 63 127 255];
for i=1:8
    num=i
L1 =a(i) ; %total number of levels
y1 = uint8(255/L1); %number of gray shades per level
x1 = 0:y1:255; %gray levels in output image
I1 = zeros(r,c);
for i = 1:1:r
for j = 1:1:c
k = uint8(I(i,j)/y1);
k = k+1;
if (k > L1+1)
k = k-1;
end
I1(i,j) = x1(k);
end
end
subplot(2,4,num)
imshow(uint8(I1));title([num2str(num),' bit image']);
end
```

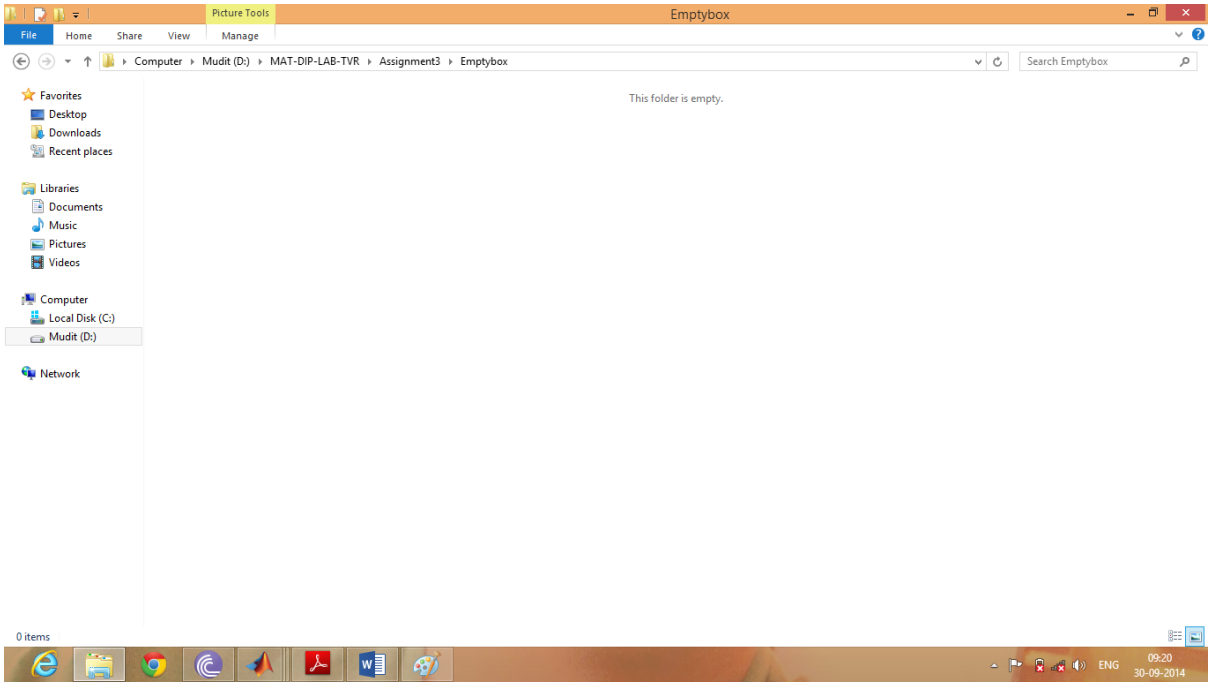
Output:-

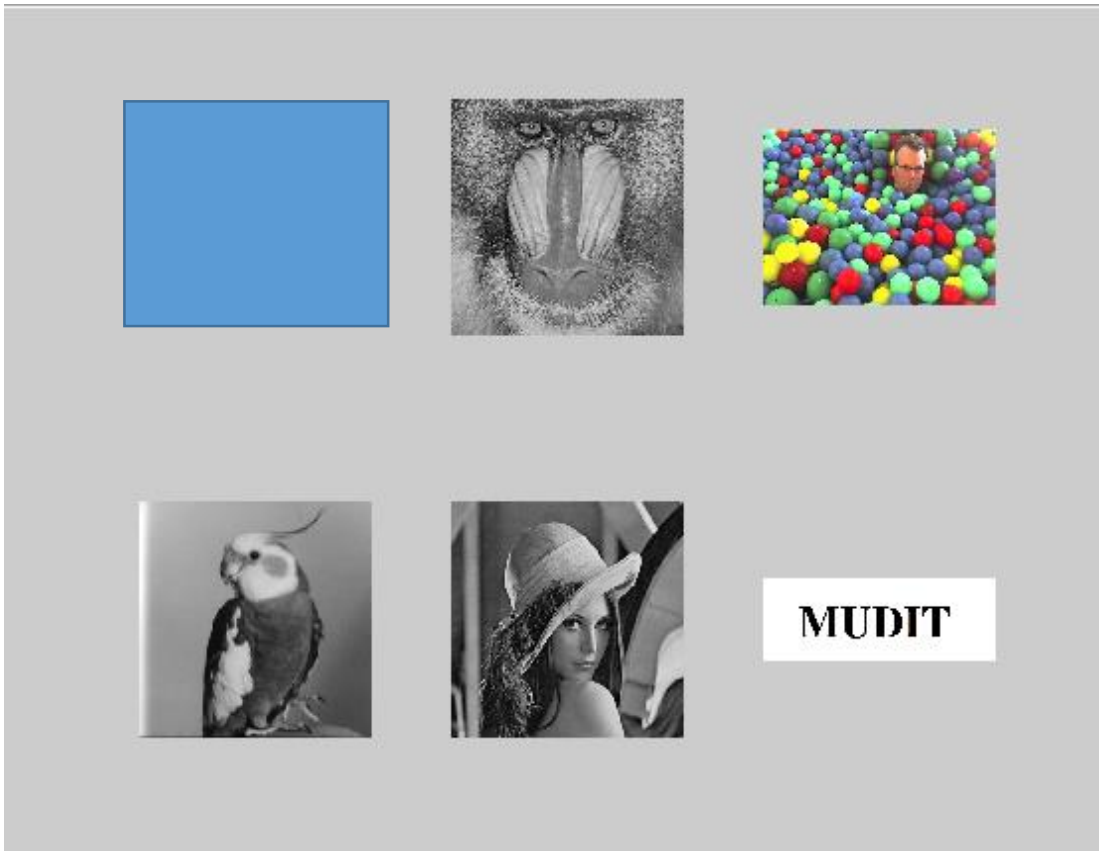
AIM 3:-How to Read/write multiple images from a folder. Explain with Matlab program.

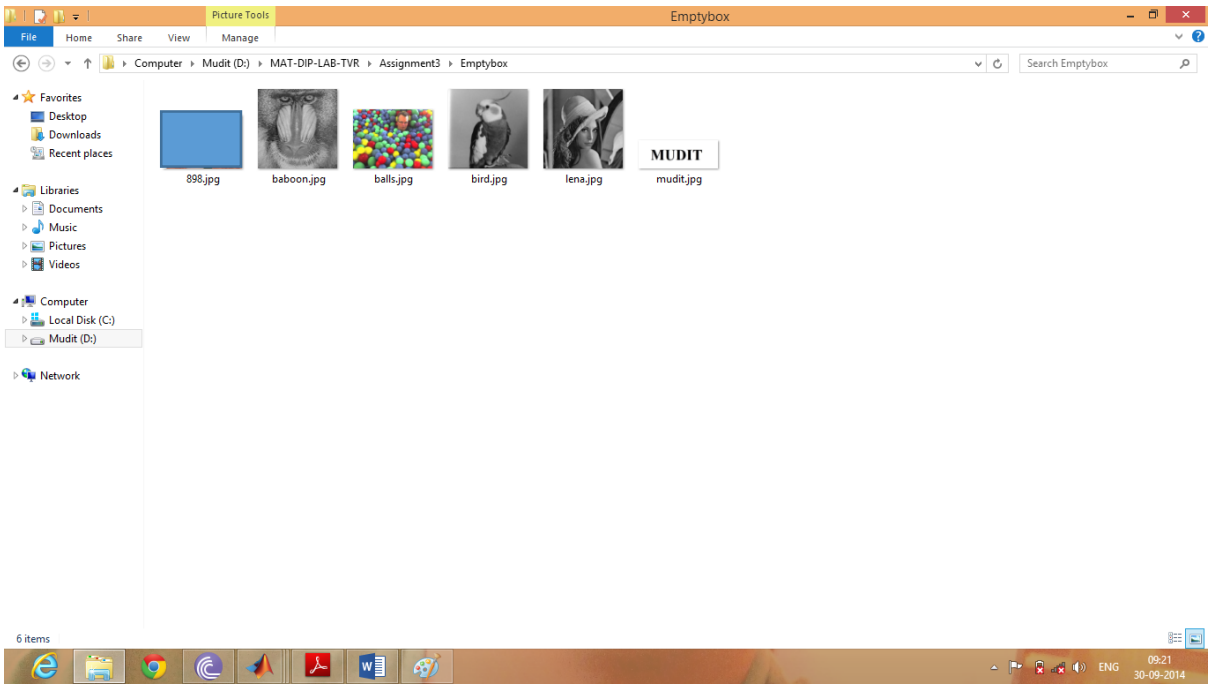
Code:-

```
clc;
for i=1:6 %suppose there are 10 image
file_name=dir(strcat('D:\MAT-DIP-LAB-TVR\Assignment3\*.jpg')); % the path tht u hv
imges
im=imread(file_name(i).name);
subplot(2,3,i)
imshow(im);
imwrite(im,strcat('D:\MAT-DIP-LAB-TVR\Assignment3\Emptybox\',file_name(i).name))
end
```

Output:-




MUDIT


Emptybox
Picture Tools
File
Home
Share
View
Manage
Computer
Mudit (D:)
MAT-DIP-LAB-TVR
Assignment3
Emptybox
Search Emptybox
Favorites
Desktop
Downloads
Recent places
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
Mudit (D:)
Network
898.jpg
baboon.jpg
balls.jpg
bird.jpg
lena.jpg
MUDIT
mudit.jpg
6 items
ENG
09:21
30-09-2014

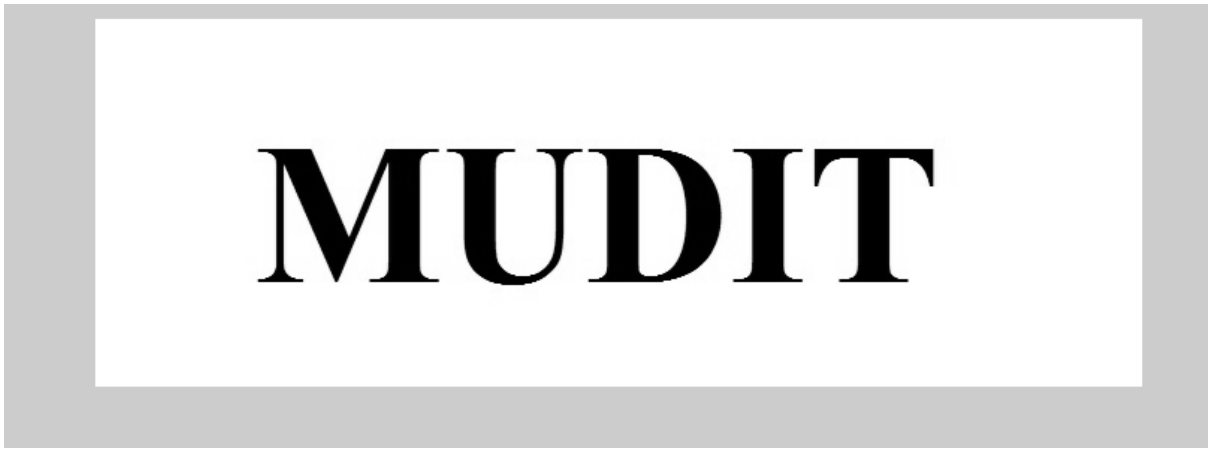
AIM 4:- Implement program to find connected components of an images. Display all connected components. (Minimum 10 images are required)

Code:-

```
clc;
close all;
clear all;
I = imread('mudit.jpg');
I = rgb2gray(I);
figure,imshow(I);
I = imcomplement(I);
I=I>128;
[a, b] = bwlabel(I,8);
[c,d] = size(I);
I1 = zeros(c,d);
I2 = zeros(c,d);
I3 = zeros(c,d);
I4 = zeros(c,d);
I5 = zeros(c,d);
%for g = 1:b
for e = 1:c
    for f = 1:d
        if a(e,f) == 1
            I1(e,f) = I(e,f);

        elseif a(e,f) == 2
            I2(e,f) = I(e,f);

        elseif a(e,f) == 3
            I3(e,f) = I(e,f);

        elseif a(e,f) == 4
            I4(e,f) = I(e,f);

        elseif a(e,f) == 5
            I5(e,f) = I(e,f);

        end
    end
end
I1=imcomplement(I1);
I2=imcomplement(I2);
I3=imcomplement(I3);
I4=imcomplement(I4);
I5=imcomplement(I5);
imwrite(I1,'m.tif');
```

```
imwrite(I2,'u.tif');
imwrite(I3,'d.tif');
imwrite(I4,'i.tif');
imwrite(I5,'t.tif');
figure,imshow(I1);
figure,imshow(I2);
figure,imshow(I3);
figure,imshow(I4);
figure,imshow(I5);
```

Output:-

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