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SECTION -1  
QUESTION 1:IMAGE

```
clear all
clc
im1 = imread('harry.jpg');
im_red = im1(:,:,1);
im_green = im1(:,:,2);
im_blue = im1(:,:,3);

subplot(2,2,1);imshow(im_red);
subplot(2,2,2);imshow(im_green);
subplot(2,2,3);imshow(im_blue);
subplot(2,2,4);imshow(im1);

disp("Independent variables:2")
disp("Components:3")

disp(["Min of red : ",min(min(im_red))]);
disp(["Min of green : ",min(min(im_green))]);
disp(["Min of blue : ",min(min(im_blue))]);

disp(["Max of red : ",max(max(im_red))]);
disp(["Max of green : ",max(max(im_green))]);
disp(["Max of blue : ",max(max(im_blue))]);

disp(["Mean of red : ",mean(mean(im_red))]);
disp(["Mean of green : ",mean(mean(im_green))]);
disp(["Mean of blue : ",mean(mean(im_blue))]);

disp(["size of image " , size(im1(:,:,1))]);
```

Command window:

```
Independent variables:2
Components:3
    "Min of red :"      "0"
    "Min of green :"     "0"
    "Min of blue :"      "0"
    "Max of red :"      "255"
    "Max of green :"     "255"
    "Max of blue :"      "255"
    "Mean of red :"      "136.7385"
```

```
"Mean of green : " 135.0275"  
"Mean of blue : " 139.0375"  
"size of image " 2592 1944"
```



Q2

```
myvoice = audioread('AUDIO.mp3');  
disp("There are 2 channels present in the signal");  
disp("The signal is a digital representation of  
analog signal");  
voicesize = size(myvoice(:,1));  
disp(["the number of values:", voicesize(1)]);  
  
subplot(2,1,1);  
plot(myvoice(:,1));  
subplot(2,1,2);  
plot(myvoice(:,2));  
  
channel1energy = sum(myvoice(:,1).^2);
```

```
channel2energy = sum(myvoice(:,2).^2);
```

Command window:

There are 2 channels present in the signal  
The signal is a digital representation of analog  
signal

"the number of values:" "269952"

```
n=20;  
t=-n:0.1:n;  
subplot(2,1,1);  
y1=s(t);  
plot(t,y1);  
subplot(2,1,2);  
y2=s(t)+s(t-2)+s(t+2);  
plot(t,y2);
```

```
n=20;  
t=-n:0.1:n;  
subplot(2,1,1);  
y1=s(t);  
plot(t,y1);  
subplot(2,1,2);  
y2=s(t)+s(t-2)+s(t+2);  
plot(t,y2);
```

