I. Implement all assignments in MATLAB (MATrix- LABoratory)

a. Read the given MP3 file and get the samples and sampling frequency using command `[y fs] = audioread(filename);`.
   i. Plot for 2 sec with respect to the sampling frequency (fs).
   ii. Convert the samples in vector (y) to matrices (Y) by using command `reshape();`
   iii. Convert the following in to the wav file using command `audiowrite(filename, desired samples, sampling frequency);`
   iv. Play audio by using `sound(variable, sampling frequency)`

b. Read the image given using `I = imread(filename)` command.
   i. Separate Red, Green and Blue pallets from the image and show them using `imshow(variable);`
   ii. Convert the color image to gray scale image and observe the difference between the pallets and gray scale image.
   iii. Convert the image samples from matrix in to vectors using `reshape();`
   iv. Resize your image in to your intended dimensions using `imresize();`

c. Read the given MP4 video file using `V = videoreader(filename);`
   i. Calculate the number of frames received in the variable

ii. Collect the frames up to 2 sec duration and convert them back to the avi video using `videowriter()`, `readFrame()` and `writeVideo()`.

iii. Convert the each frame in to column and store it another variable and show it as image.

d. Read the passage given in the excel sheet using `[num str]=xlsread(filename)` and convert it in to the ASCII values using `char()` and `double()`. Now by reordering array of ASCII values in to matrix of your dimensions and convert in to image.

e. Convert the audio samples of first 3sec extracted in 1 (a) to the ASCII values using `num2str()`,`char()` and `double()`. Finally reshape the array of ASCII values and convert it to image.

2. Floor, Ceil and Round

a. Take the 2 sec audio samples and compute the floor, ceil and round and find the error between the original 2sec audio samples and resultant samples of floor, ceil and round.

II. MATLAB Commands :

`audioread()`,`audiowrite()`,`sound()`, `imread()`,`reshape()`,`imshow()`, `imresize()`,`videoreader()`, `videowriter()`, `readFrame()`,`writeVideo()`,`hasFrame()`, `xlsread()`,`xlswrite()`,`char()`,`double()`,`num2str()`,`floor()`,`ceil()` and `round()`