```matlab
%%%%%%Lynda Zaid%%%%%%
%In this lab we wil aplly some video processing like reading,convert
 it
%and also creating a vodeo from a sequence of images.
clear all
close all
%1. Now we will read the STGEORGES video using videoreader
   x = VideoReader('STGEORGES.avi');
% Specify that reading should start at 0.5 seconds from the
% beginning.
% Create an axes
   currAxes = axes;
% Read video frames until available
   while hasFrame(x)
     vidFrame = readFrame(x);
     image(vidFrame, 'Parent', currAxes);
     currAxes.Visible = 'off';
     pause(1/x.FrameRate);
   end
%Convert the video into grayscale by extracting each of it's frame on
 gray scale
 numImgs = get(  x , 'NumberOfFrames');
 frames = read(  x );
 obj=VideoWriter('somefile.avi');
 open(obj);

 for i=1:numImgs
     movie(i).cdata=rgb2gray(frames(:,:,:,i));
     movie(i).colormap=gray;
 end

 writeVideo(obj,movie);
 close(obj);
 v = VideoReader('somefile.avi');
 Y=read(v);
 p=implay(Y);
 %3 Creating a video from a sequence of images,here i make all the
 images
 %on the same folder and then i chnge their idexes by (1,2,........15)
  vidobj=VideoWriter('outvideo.mp4','MPEG-4');
  open(vidobj);

for i=1:15
    %sprintf('hgate%02d.png', num)
    %a=imread(sprintf('PIETON%02d.bmp', i));
    [Frame,map]=imread(strcat(num2str(i),'.bmp'));
    if ~isempty(map)
        FramedImage = ind2rgb(Frame,map);
    end
    currFrame=im2frame(FramedImage);
    writeVideo(vidobj,currFrame);
end
```

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close(vidobj);

%4. OBJECTS TRACKING ON PIETON VIDEO SEQUENCE

%The solution here is to select the region of interest then track them
 from
%frame to frame.
%5. CREATE SYNTHETIC IMAGES WITH MOVING OBJECTS
%In this step i choose an image of hand then i change it bye doing
 some
%transformation like rotation
vidobj=VideoWriter('outvideo.mp4','MPEG-4');
open(vidobj);
for i=1:4
    [Frame,map]=imread(strcat(num2str(i),'.jpg'));
    currFrame=im2frame(Frame);
    writeVideo(vidobj,currFrame);
end
close(vidobj);

Error using image
Cannot set property to a deleted object.
Error in Lab3 (line 15)
     image(vidFrame, 'Parent', currAxes);
```

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