// Code

```
% Create a VideoReader object to read the video
videoFile = 'vidivp.mp4';
videoObj = VideoReader(videoFile);
% Create an optical flow object
opticFlow = opticalFlowLK('NoiseThreshold', 0.001);
% Create a figure to display the original video and motion vectors
figure;
% Loop through each frame in the video
while hasFrame(videoObj)
% Read the current frame
frame = readFrame(videoObj);
% Compute optical flow
flow = estimateFlow(opticFlow, rgb2gray(frame));
% Compute motion vectors
Vx = flow.Vx;
Vy = flow.Vy;
% Threshold the motion vectors to detect objects
threshold = 5; % Adjust this threshold as needed
motionMask = sqrt(Vx.^2 + Vy.^2) > threshold;
% Display the original frame
subplot(1, 2, 1);
imshow(frame);
title('Original Frame');
% Display the motion vectors
subplot(1, 2, 2);
imshow(frame);
hold on;
plot(flow, 'DecimationFactor', [5 5], 'ScaleFactor', 2);
hold off;
title('Motion Vectors');
% Pause to control the playback speed
pause(0.1);
end
```

// Output