1. The task involves using two pretrained neural networks with different input sizes to classify at least four different objects.

CODE:

```
clc;
clear all;
m = mobiledev;
cam = m.camera('back');
[net1, classNames1] = imagePretrainedNetwork('googlenet');
[net2, classNames2] = imagePretrainedNetwork('vgg19');
h = figure;
saveDir = 'D:\matlab';
if ~exist(saveDir, 'dir')
    mkdir(saveDir);
end
imgCount = 1;

while ishandle(h)
    im = snapshot(cam, "manual");
    im1 = imresize(im, [224, 224]);
    im1 = single(im1);
    im2 = imresize(im, [224, 224]);
    im2 = single(im2);
    score1 = predict(net1, im1);
    score2 = predict(net2, im2);
    [maxScore1, idx1] = max(score1);
    [maxScore2, idx2] = max(score2);
    label1 = classNames1{idx1};
    label2 = classNames2{idx2};
    labelText = sprintf('GoogLeNet: %s (%.2f)\nVGG-19: %s (%.2f)', label1, maxScore1,
label2, maxScore2);
    boxColor = 'yellow';
```

```
    textColor = 'black';
    fontSize = 18;
    labeledImage = insertText(im, position, labelText, 'FontSize', fontSize, 'BoxColor', boxColor, 'TextColor', textColor);
    image(labeledImage);
    title('Real-time Image with Predicted Labels');
    filename = sprintf('image_%d.jpg', imgCount);
    savePath = fullfile(saveDir, filename);
    imwrite(labeledImage, savePath);
    imgCount = imgCount + 1;
    drawnow;
end
```

CODE SCREENSHOT:

Live Editor - D:\matlab\24MAI0051.mlx *

images.mlx | 24MAI0051.mlx *

```
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    im1 = imresize(im, [224, 224]);
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    score1 = predict(net1, im1);
    score2 = predict(net2, im2);
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    imwrite(labeledImage, savePath);
    imgCount = imgCount + 1;
    drawnow;
end
```
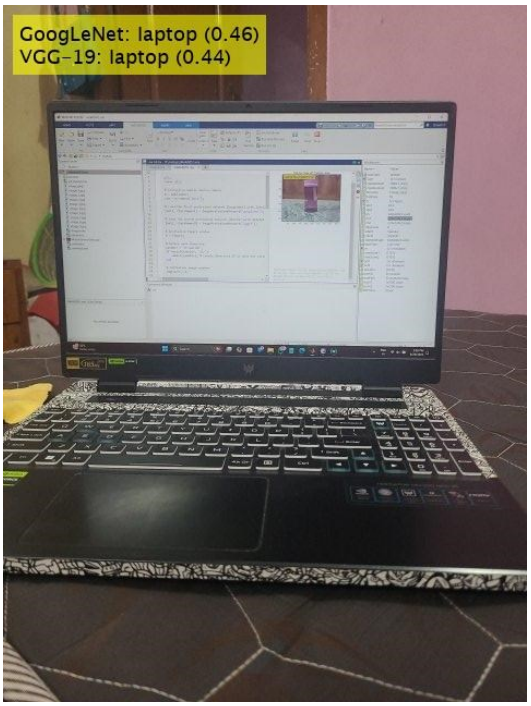

OUTPUT:

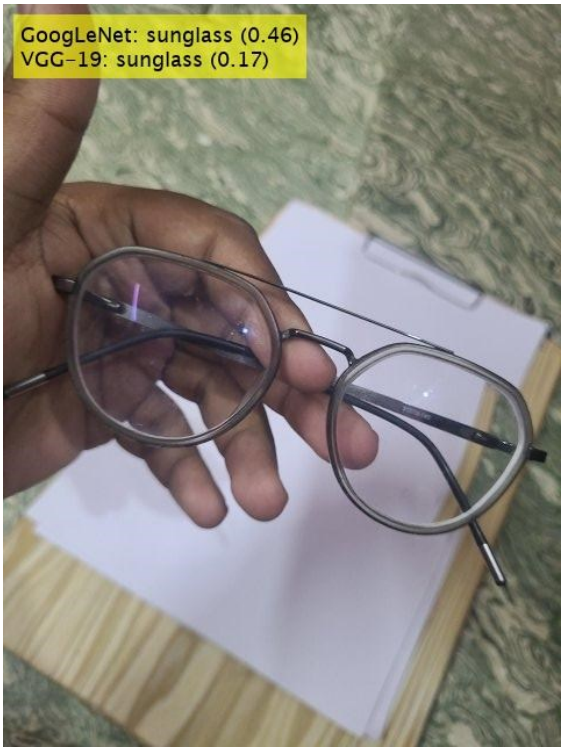

GoogLeNet: mouse (0.99)
VGG-19: mouse (0.96)

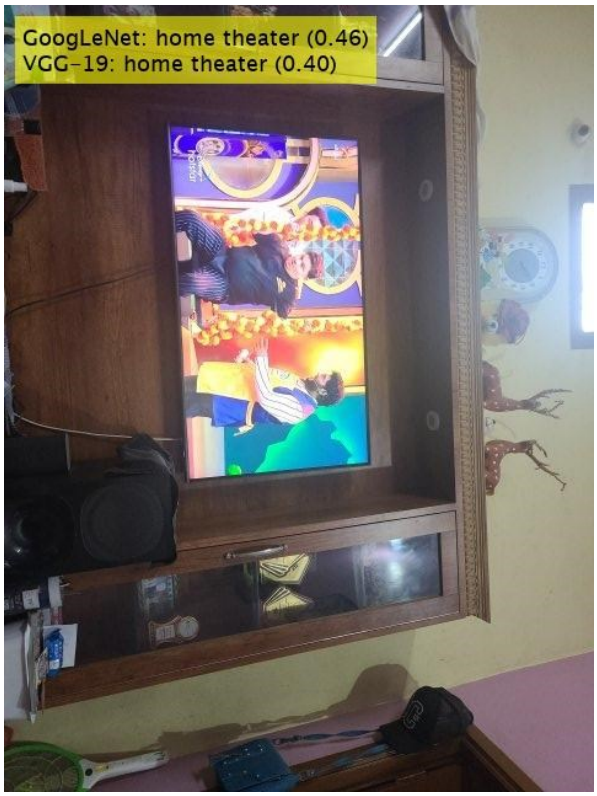

GoogLeNet: remote control (0.98)
VGG-19: remote control (0.37)


GoogLeNet: pill bottle (0.67)
VGG-19: water bottle (0.32)


GoogLeNet: laptop (0.46)
VGG-19: laptop (0.44)


GoogLeNet: ballpoint (0.81)
VGG-19: ballpoint (0.43)


GoogLeNet: sunglass (0.46)
VGG-19: sunglass (0.17)


GoogLeNet: home theater (0.46)
VGG-19: home theater (0.40)


GoogLeNet: backpack (0.94)
VGG-19: backpack (0.74)