ASSIGNMENT 6

CODE

```
import cv2 as cv
import numpy as np

cap = cv.VideoCapture(0)
whT = 320
confThreshold =0.5
nmsThreshold= 0.2

#### LOAD MODEL
## Coco Names
classesFile = "coco.names"
classNames = []
with open(classesFile, 'rt') as f:
    classNames = f.read().rstrip('n').split('n')
print(classNames)
## Model Files
modelConfiguration = "yolov3-320.cfg"
modelWeights = "yolov3-320.weights"
net = cv.dnn.readNetFromDarknet(modelConfiguration, modelWeights)
net.setPreferableBackend(cv.dnn.DNN_BACKEND_OPENCV)
net.setPreferableTarget(cv.dnn.DNN_TARGET_CPU)

def findObjects(outputs,img):
    hT, wT, cT = img.shape
    bbox = []
    classIds = []
    confs = []
    for output in outputs:
        for det in output:
            scores = det[5:]
```

```
        classId = np.argmax(scores)
        confidence = scores[classId]
        if confidence > confThreshold:
            w,h = int(det[2]*wT) , int(det[3]*hT)
            x,y = int((det[0]*wT)-w/2) , int((det[1]*hT)-h/2)
            bbox.append([x,y,w,h])
            classIds.append(classId)
            confs.append(float(confidence))

indices = cv.dnn.NMSBoxes(bbox, confs, confThreshold, nmsThreshold)
```