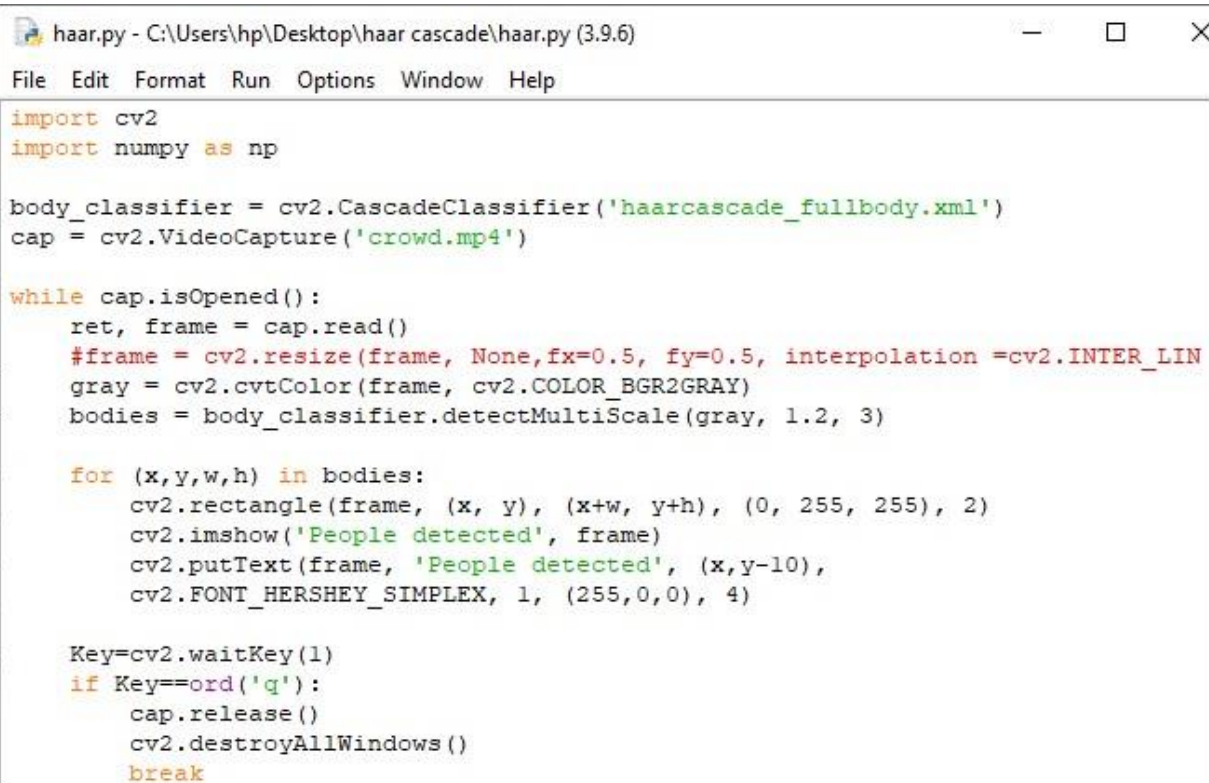


VIT-IOT(INDUSTRY CERTIFICATE INTERNSHIP PROGRAM)
ASSIGNMENT-6

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Develop a python code to detect any object using Haar cascade classifier.

Python code:

A screenshot of a Python IDE window titled 'haar.py - C:\Users\hp\Desktop\haar cascade\haar.py (3.9.6)'. The window has a menu bar with 'File', 'Edit', 'Format', 'Run', 'Options', 'Window', and 'Help'. The code is written in Python and uses OpenCV for object detection. It imports 'cv2' and 'numpy as np'. It initializes a 'body_classifier' using 'cv2.CascadeClassifier' with the file 'haarcascade_fullbody.xml'. It opens a video file 'crowd.mp4' using 'cv2.VideoCapture'. A 'while' loop checks if the video is opened. Inside the loop, it reads a frame, resizes it to half its original size, converts it to grayscale, and uses the classifier to detect multi-scale bodies. For each detected body, it draws a red rectangle, shows the frame with the text 'People detected', and puts the text on the frame. It then waits for a key press. If the 'q' key is pressed, it releases the video capture, destroys all windows, and breaks the loop.

```
haar.py - C:\Users\hp\Desktop\haar cascade\haar.py (3.9.6)
File Edit Format Run Options Window Help

import cv2
import numpy as np

body_classifier = cv2.CascadeClassifier('haarcascade_fullbody.xml')
cap = cv2.VideoCapture('crowd.mp4')

while cap.isOpened():
    ret, frame = cap.read()
    #frame = cv2.resize(frame, None,fx=0.5, fy=0.5, interpolation =cv2.INTER_LINEAR)
    gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
    bodies = body_classifier.detectMultiScale(gray, 1.2, 3)

    for (x,y,w,h) in bodies:
        cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 255), 2)
        cv2.imshow('People detected', frame)
        cv2.putText(frame, 'People detected', (x,y-10),
        cv2.FONT_HERSHEY_SIMPLEX, 1, (255,0,0), 4)

    Key=cv2.waitKey(1)
    if Key==ord('q'):
        cap.release()
        cv2.destroyAllWindows()
        break
```

Code:

```
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import numpy as np
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        cv2.destroyAllWindows()
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```

Output:

