NableIT: Assignment on Footfall analysis (Computer Vision)

The main aim of this assignment is to analyze the video (Footfalls to drop 56% at NCR malls this Diwali)

1. Number of persons detected
2. Create abounding box on each face/ body
3. Put a number on the box 1 to n

Does it count the same person appearing more than once?

Details of video:

Footfalls are estimated to decline by 56% at Delhi malls this Diwali because of increase in online shopping. Delhi NCR Malls space remains vacant with 68.5%.

Application of doing this project:

AI-powered retail analysis solutions are not only built to observe buyer behavior. It also includes customer and associate interaction, thereby offering real-time visibility into in-store service engagement. Moreover, it can be used to push personalized marketing and messaging campaigns.

How I did this assignment:

IDE:- Visual studio code

Packages:-

```
import cv2
import torch
from tracker import *
import numpy as np
```

Model:- `torch.hub.load('ultralytics/yolov5', 'yolov5s', pretrained=True)`

First, I build a tracker code for detecting objects as tracker.py file.

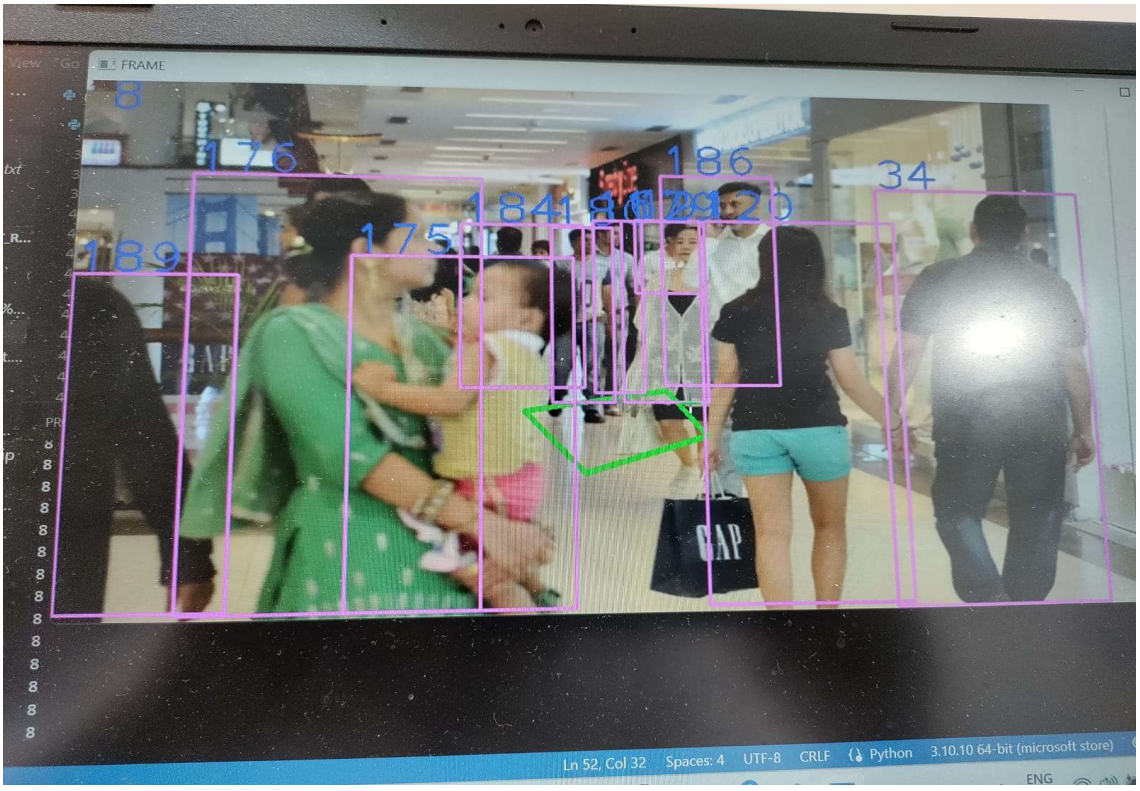
Then, in main.py file I did whole functionality whatever asked to do.

Requirement text file is there to run.

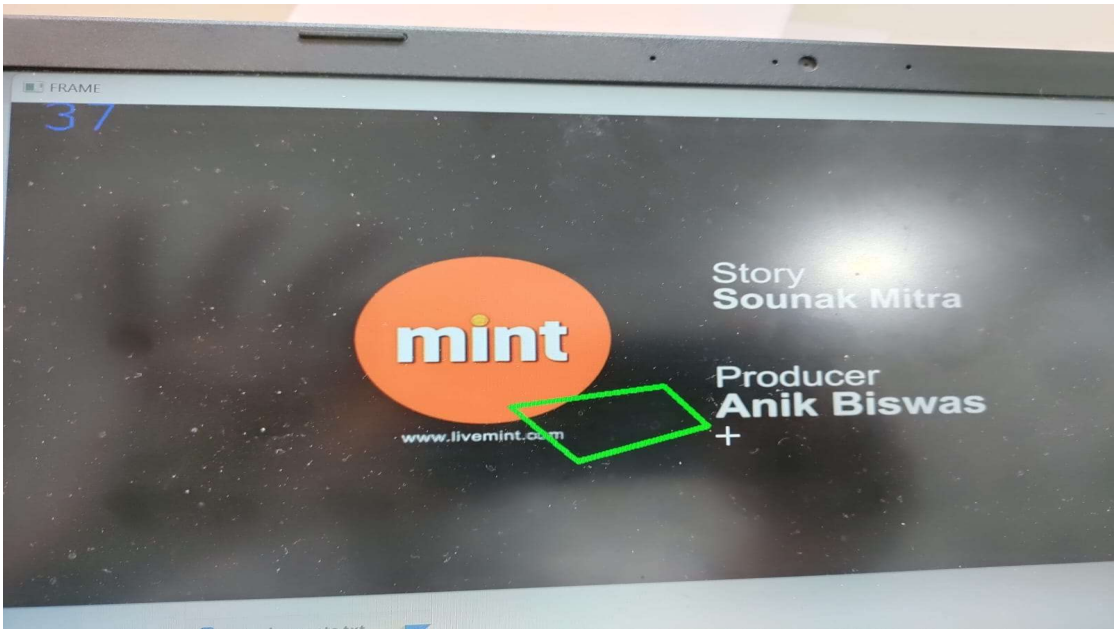
Answers of questions asked:

- I have created bounding box on body of persons.

- On top left corner it counts the person who comes in the green colored area.
- No, it won't count again the person appearing more than once because unique id number is assigned to person detected in frame, which shows number on bounding box.



- Total Number of Persons come into the interested area is 37.
- Print count of person comes in that region like in above picture.
- Used pretrained model YOLO v5 for this assignment.
- Tracker file to detect objects and assign ids.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