DSA0210 Computer Vision with Open CV LAB Experiments

Experiment-34: Vehicle Detection in a Video frame using OpenCV .

PROGRAM:

```
import cv2

# Open video
video = cv2.VideoCapture(
    r"D:\New Folder\vid.mp4"
)

bg_subtractor = cv2.createBackgroundSubtractorMOG2(
    history=500, varThreshold=50, detectShadows=True
)

print("Press 'q' to quit")

while True:
    ret, frame = video.read()
    if not ret:
        break

    fg_mask = bg_subtractor.apply(frame)
    _, fg_mask = cv2.threshold(fg_mask, 200, 255, cv2.THRESH_BINARY)

    contours, _ = cv2.findContours(
        fg_mask, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_SIMPLE
    )
```

```
    for cnt in contours:
        if cv2.contourArea(cnt) > 1500:
            x, y, w, h = cv2.boundingRect(cnt)
            cv2.rectangle(frame, (x, y), (x + w, y + h), (0, 255, 0), 2)

    cv2.imshow("Vehicle Detection", frame)

    if cv2.waitKey(30) & 0xFF == ord('q'):
        break

video.release()
cv2.destroyAllWindows()
```

OUTPUT: