Title: Pelvis Drift Detection and posture recommendation

Context: This document outlines the corrective strategy for a commonly observed posture anomaly known as **pelvis drift**, in which the driver's pelvis slides forward, disrupting optimal lumbar support and seated balance. This can occur particularly during prolonged driving in congested traffic at low speeds. If unaddressed, it may lead to discomfort and potential musculoskeletal strain.

Trigger Name: Pelvis Drift + High Traffic jam + Low Speed

Trigger Conditions:

- Pelvis Drift
- High Traffic Jam
- Low Car Speed

Smart Adjustment Strategy: To restore ergonomic seating and improve support, the system issues a seat tilt adjustment. This tilt repositions the driver's body into a more natural and supported posture. The system uses the following logic:

- When posture classified as **Pelvis Drift** AND traffic congestion is high AND vehicle speed is low:
    - **Tilt Adjustment:**
        - `percentage`: 15
        - `type`: "relative"
        - `direction`: "up"
    - **Seatbelt :**
        - `percentage`: 10

This targeted correction ensures that the pelvis is gently repositioned to reduce strain and improve comfort without disrupting driving focus, particularly in stop-and-go conditions.

Ergonomic Impact and Driver Benefits:

Pelvis drift can lead to a cascade of postural issues and health risks, including:

- Flattening of the lumbar spine, reducing natural spinal curvature
- Increased pressure on the lower back and hip joints
- Poor alignment of the head and shoulders, leading to neck and upper back tension

- Reduced blood circulation to the legs due to compressed thigh posture
- Greater likelihood of fatigue, inattentiveness, and reaction delay

By intervening early with a motorized seat tilt adjustment:

- The driver regains proper pelvic alignment and spine support
- Fatigue is reduced, especially in long-duration or stop-and-go traffic
- Blood flow and muscular engagement are normalized
- Reaction times and situational awareness are maintained
- Long-term risks of musculoskeletal disorders (MSDs) are minimized