Interview task

Task: G1 Locomotion Policy with Symmetry and Constrained RL (in Simulation)

Implement a **velocity-tracking locomotion policy** for the **Unitree G1** robot in simulation, using **symmetry** and **constrained reinforcement learning**.

📌 **Requirements**

- **Robot**: Unitree G1
- **Input**:
  - Forward velocity: `vx ∈ [0.0, 1.0]`
  - Yaw rate: `vz ∈ [-0.5, 0.5]`
- **Output**:
  - Joint positions
  - (Optionally, PD gains if you prefer)
- **Algorithm**:
  - Use **N-P3O**, as described in the paper:
    Lee, Joonho, et al. "Evaluation of constrained reinforcement learning algorithms for legged locomotion."
- **Symmetry**:
  - Enforce symmetry using **data augmentation only**, following the method in:
    Mittal, Mayank, et al. "Symmetry considerations for learning task symmetric robot policies."
  - You can use `rsl_rl` library

🔓 **You are free to:**

- Use any **neural network architecture**
- Add any **randomization** or **noise**
- Use any **privileged information** if needed
- any Phyisic simulator

Overall, you are free to decide if something is not defined

📦 Deliverables

1. **Training code**
2. **Trained policy checkpoint + inference code**
3. **Video** of the robot walking (can be a screen recording)