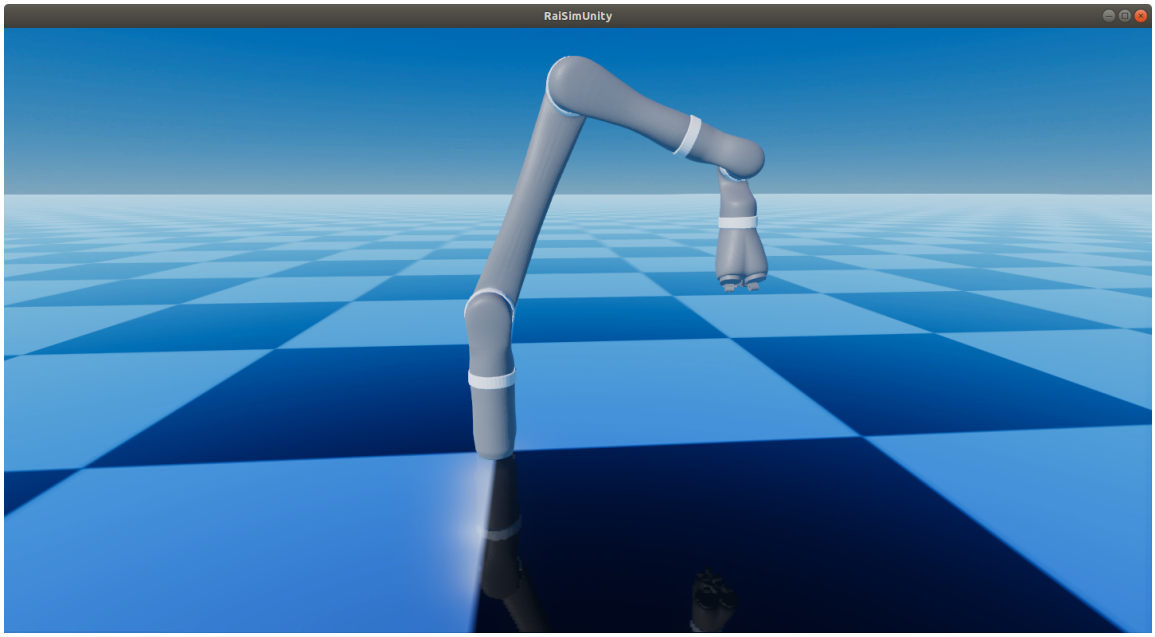
KAIST ME553 Robot Dynamics

Instructor: Jemin Hwangbo, Mechanical Engineering

Exercise 6

You will be again using the fingerless Kinova model for this exercise. You should download or clone the exercise repo here: https://github.com/HuboLabKaist/KAIST_ME553. If you already have the project, pull (using git) or download it again. When you run RaiSimUnity.exe and exercise_6.exe after compilation, you should see this screen.



The goal of this project is to write a controller that pushes the ground with exactly 10 N force. You should also minimize the generalized force given that force and the corresponding acceleration constraint. You can use your results from exercise 4 for this exercise. You can also use raisim methods “kinova->getMassMatrix().e()” and “kinova->getNonlinearities().e()”.

Note that the collision body has a finite radius and it has an offset from the end-effector frame.

Deliverable: A single header file named “exercise_6_STUDENTID.hpp”. Use the provided template. You should replace “STUDENTID” with your real student id number. Submit it on KLMS.

Deadline: 5pm, 11th of April