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clc;
clear;
vrep=remApi('remoteApi'); % using the prototype file (remoteApiProto.m)
vrep.simxFinish(-1); % just in case, close all opened connections
clientID=vrep.simxStart('127.0.0.1',19999,true,true,5000,5);
if (clientID > -1 )
    disp("Connected");
    [returnCode,joint_0]=vrep.simxGetObjectHandle(clientID,'youBotArmJoint0',vrep.✓
simx_opmode_blocking);
    [returnCode,joint_1]=vrep.simxGetObjectHandle(clientID,'youBotArmJoint1',vrep.✓
simx_opmode_blocking);
    [returnCode,joint_2]=vrep.simxGetObjectHandle(clientID,'youBotArmJoint2',vrep.✓
simx_opmode_blocking);
    [returnCode,joint_3]=vrep.simxGetObjectHandle(clientID,'youBotArmJoint3',vrep.✓
simx_opmode_blocking);
    [returnCode,joint_4]=vrep.simxGetObjectHandle(clientID,'youBotArmJoint4',vrep.✓
simx_opmode_blocking);
    [returnCode,gripper1]=vrep.simxGetObjectHandle(clientID,'youBotGripperJoint1',vrep.✓
simx_opmode_blocking);
    [returnCode,gripper2]=vrep.simxGetObjectHandle(clientID,'youBotGripperJoint2',vrep.✓
simx_opmode_blocking);
    [returnCode,wheel1]=vrep.simxGetObjectHandle(clientID,'rollingJoint_fr',vrep.✓
simx_opmode_blocking);
    [returnCode,wheel2]=vrep.simxGetObjectHandle(clientID,'rollingJoint_fl',vrep.✓
simx_opmode_blocking);
    [returnCode,wheel3]=vrep.simxGetObjectHandle(clientID,'rollingJoint_rr',vrep.✓
simx_opmode_blocking);
    [returnCode,wheel4]=vrep.simxGetObjectHandle(clientID,'rollingJoint_rl',vrep.✓
simx_opmode_blocking);
    i =0;
    % Get to postion to grab box
    while (i < 1000)
        i = i+1;
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(4),vrep.✓
simx_opmode_oneshot);
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(40),vrep.✓
simx_opmode_oneshot);
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(45),vrep.✓
simx_opmode_oneshot);
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(80),vrep.✓
simx_opmode_oneshot);
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);
    end

    i = 0;
    %Grab box
    while(i < 100)
        i = i+1;
        [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(3),vrep.✓
simx_opmode_oneshot);

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[returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(40),vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(45),vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(80),vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
end

i = 0;
% Pick up box
while(i < 1000)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(3),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(45),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(80),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,0,vrep.✓
simx_opmode_oneshot);
end
% go ahead
i = 0;
while(i < 2500)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(3),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(45),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(80),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);
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[returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,4.5,vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,4.5,vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,4.5,vrep.✓
simx_opmode_oneshot);
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,4.5,vrep.✓
simx_opmode_oneshot);
end
%stop
i = 0
while(i < 1000)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(20),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(40),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);

    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,0,vrep.✓
simx_opmode_oneshot);
end
%rotate
i = 0;
while(i < 100)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(50),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(50),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(50),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
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simx_opmode_oneshot);

    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,0,vrep.✓
simx_opmode_oneshot);
end

i = 0;
while(i < 1000)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(80),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(70),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(50),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(10),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓
simx_opmode_oneshot);

    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0.5,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper1,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,0,vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,0,vrep.✓
simx_opmode_oneshot);
end

i = 0;
while(1)
    i = i+1;
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_0,deg2rad(80),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_1,deg2rad(70),vrep.✓
simx_opmode_oneshot);
    [returnCode]=vrep.simxSetJointPosition(clientID,joint_2,deg2rad(50),vrep.✓
simx_opmode_oneshot);
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[returnCode]=vrep.simxSetJointPosition(clientID,joint_3,deg2rad(10),vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointPosition(clientID,joint_4,deg2rad(0),vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper1,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper2,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,gripper1,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel1,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel2,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel3,0,vrep.✓  
simx_opmode_oneshot);  
[returnCode]=vrep.simxSetJointTargetVelocity(clientID,wheel4,0,vrep.✓  
simx_opmode_oneshot);  
end  
vrep.simxFinish(-1);  
end  
vrep.delete();
```