Lab Number 08
Interfacing CoppeliaSim EDU with MATLAB

Introduction:

CoppeliaSim EDU provides remote API to interface with different platforms such as ROS, MATLAB etc.

Software Used:
CoppeliaSim EDU v4.7
MATLAB

Programming Language:
LUA
MATLAB

Objectives of the Lab:
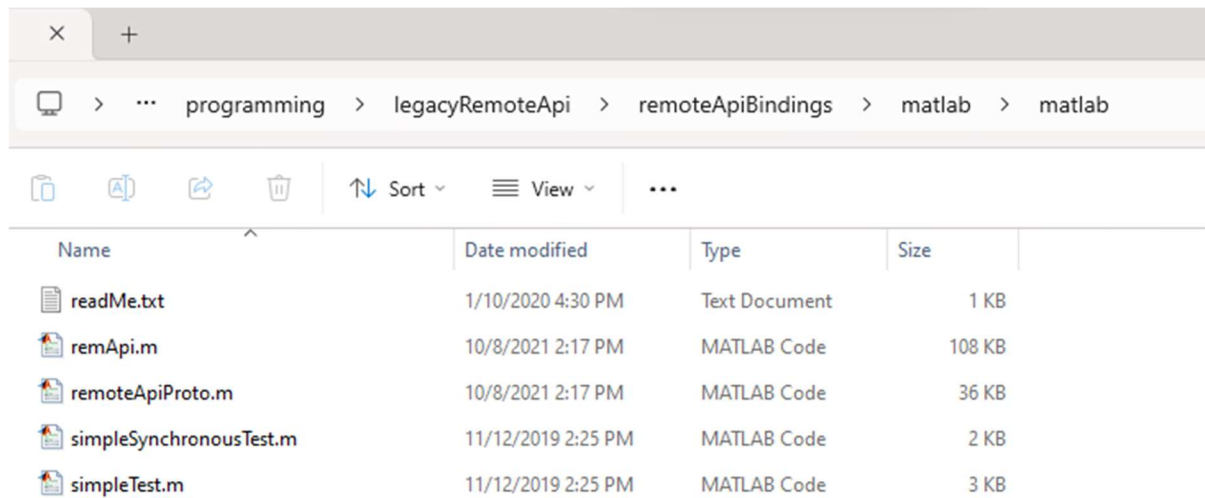- To interface MATLAB with CoppeliaSim EDU

INTERFACING:

First of all open MATLAB and CoppeliaSim EDU

In MATLAB, add new script and save it in a folder of your choice.

Now go to ThisPC →"where coppelia is installed" → Coppelia Robotics → CoppeliaSim EDU

→ Programming →Legacy Remote API → Remote API KeyBindings → MATLAB

Copy all these files on the folder you have saved your script.

Now open the MATLAB script and start writing.

clear all;

clc;

close all;

%initializing remote API to interface with CoppeliaSim EDU

vrep = remApi('remoteApi');

vrep.simxFinish(-1);

%Add the ip address, and signal

id = vrep.simxStart('127.0.0.1', 19999, true,true, 5000, 5);

%check if the signal is correct if it is giving -1 then not connecting else connected

if (id>-1)

disp('connected')

else

disp('not connected')

end

Now open the CoppeliaSim and add the script. Add the following line in the script.

```lua
function sysCall_init()
    sim = require('sim')
result = simRemoteApi.start(19999)

    -- do some initialization here
end
```

Now start the simulation in CoppeliaSim EDU and RUN on MATLAB. You should see connected.

Command Window

New to MATLAB? See resources for Getting Started.

```
Note: always make sure you use the corresponding remoteApi library
(i.e. 32bit Matlab will not work with 64bit remoteApi, and vice-versa)
connected
fx >>
```

Connection between MATLAB and CoppeliaSim has been configured.