Robotics Lab – Classwork 2

Student(s): [ ]

This classwork focuses on the development of a control algorithm in C++. Submit the classwork pushing the source code in your github page and share the link with the instructor via mail. You can create the repository as a public repository.

Topic:

Develop a feed-forward controller in C++ starting from the work done in class. The code must be compiled using the CMake tool and requires the implementation of a multi-threading program consisting of the following features:

* User insert the input using the keyboard
* The controller start from a given value (hardcoded in the source / passed through the command line arguments)
* The controller continuously follows the user input
* To follow the implementation with the instructor, or implement your version, start with this template
  + $ git clone <https://github.com/rl2023/control_loop.git>

Additional features:

* Starting from the implementation of a simple P controller, add the Integral and Derivative actions
* Save the commanded and measured (feed-forward) data on a text file (you can place it everywhere you want in your system)
  + Plot these data using MATLAB or similar tool
  + Add the plot figure in the repository
  + When the control cycle should terminate??

Submit the classwork adding here the repository link: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_