COMP105P Lab Tasks Week 1-2

Tasks

Here are the tasks for this week (and next week):

- Task 1.0. Get the robot to go in a straight line and then stop.
- Task 1.1. Get the robot to draw a 1-metre square using the motor encoders to measure the length of the sides and the angles turned.
- Task 1.2. Get the robot to go spin in a circle on the spot.

Hints

Here are some hints to get you going.

- SimpleIDE is installed on Windows on the lab machines. The first time you run it, it will take few minutes to download and install the USB drivers.
- In order to access the library reference: In SimpleIDE, go to Help → Simple Library Reference. Click on a header file to explore the available functions and their documentation. The following being the most important ones to explore: *simpletools.h* and *abdrive.h*
- Put each task (or subtask) in its own self-contained C file and name it appropriately. You will end up with three files (one for each task), each of which should compile and execute cleanly when ran in SimpleIDE. When submitting bundle all the tasks in a .zip and name it appropriately. There are a lot of students in the class and we do not want to have to guess which group originated which file and which zip archive - please take care to adhere to a sensible naming convention. You can use the following naming for your zip file *pairNumber_task1.zip*, for example ***pair25_task1.zip***.
- Keep your code neat and tidy. Make sure you do everything as obviously as possible. Please add comments where it may not be immediately apparent what you are trying to do. We will actually be looking at the code you submit, so do not produce a jumbled mess.
- Make things as modular as possible - as mentioned in the first lecture your later tasks will build on earlier ones and the level of complexity will increase gradually. This usually means you will have to do the same basic things over and over again (e.g. parsing the readings of a certain type of sensor) - why not put those things in separate functions (and files later on when the tasks get big) that you can reuse.

The teaching assistants are

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If you have any questions about the assignments feel free to ask your teaching assistants. Please note that we will not do the tasks for you or code anything for you.