Project 1

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Requirements

1. Communication protocol
   Define the structure of the protocol that you would like to use (e.g. "command<space>value").
   (1.1) Create a function that would process the commands received by the robot from the pc.
   In case an ill-formed or a non-existent command is sent, ignore it.
   The example of the protocol can be found at the end of Lecture 2 (FTP / Files tab).

2. Movement
   (2.1) Implement functions for moving individual motors. You should be able to specify the distance (in cm) that the wheel will drive by using feedback from the motor encoder.
   (2.2) Implement functions to drive the robot forwards and backwards for a specified distance.
   (2.3) Implement functions to turn the robot in-place by a specified angle.
   (2.4) Use the encoder values to approximate the distance travelled by the robot (odometer).

3. Code documentation
   Clearly label your functions and arguments (e.g. `drive(direction, speed)` instead of `dr(d, s)`).
   Document the list of available commands in your protocol.

Defence

1. Hard-coded movement
   Specify a path for your robot. It should involve at least 2 movements forwards/backwards and at least 2 turns, and should not amount to a straight line.
   The robot should drive from point A to point B autonomously.

2. Manual driving
   While connected to the computer, send commands to the robot and make it drive in the same path as in point 1.
   The robot should drive from point A to point B using only your direct real-time input.