Robotic : Assignment 01

Team Orange

Students : Till Friebe, Maximilian Block,

Protocol Task 1:

2a) 9,5 cm
2b) 31,5 cm
2c) 1,5 cm; 22cm
2d) In that scenario we could have trouble navigating through the maze. The wheel encoders showed different values for the same distance, as a result of that we cannot entirely rely on that information. We would need to correct the error not only with wheel encoders but also by measuring distances with the laser scanner. That way we could reduce the error produced by the encoders and accomplish a reasonable solution.

3b)
Our solution works through multiple steps which are to repeated:

1. Start RENSCAN to search for walls and also measure the distance to it.
   a) If there is a wall with a distance of about 40cm, jump to step 3.
   b) If there is a wall closer than 40cm, turn until this is not the case any more.
   c) Else start driving.
2. When a wall is identified with a distance of about 40cm to the center of the Robot, stop driving.
3. Calculate the angel between the y-Axsis of the Robot and the wall.
4. Turn in such a fashion that this angel is about 0º.
5. Now start driving in the new direction until a new wall is found with a distance of about 40cm.
6. Stop and calculate the angle.
7. Turn parallel to that wall in such a way that the robot is facing the first wall.
8. Adjust the distance to the first wall.
9. Turn parallel to the first wall.

Names: | Task:	1)	2)	3)
Rodrigo	0%	0%	40%
Till	10%	0%	40%
Max	0%	80%	15%
Benjamin	90%	20%	5%