ROS, LAB EXERCISE 4

(1) Experiment with the parameters of the tracking algorithm and note how that affects performance.

   (a) Modify the linear speed and the formula for the angular speed. What happens if you just increase the linear speed? Does TB3 loose the path?

   (b) Modify the lower and the upper colors. For a very strict color detection put the two values very close to each other. How does that affect the mask?

   (c) Modify the value of descentre and the number of rows tracked. What happens if the vision field of the robot is very low? Very high? What happens if you only track 20 rows?

(2) Insert a piece of code in the Python script which helps TB3 recover if it losses the path.

(3) Use colored construction paper to build a racetrack for the physical TB3. Record the RGB values for the color of your track and transform them into HSV values. Read the parameters of the camera messages sent by TB3. Modify the Python script to guide TB3 along the racetrack you constructed.