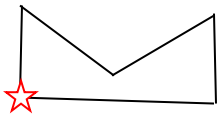
Assignment #2

Basic Robot Navigation

This assignment can be completed by team.
Total score: 50
Due date: 3/5/2018

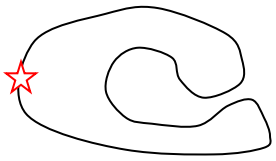
Perform the following tasks to complete this assignment:

(1) **Create a package named "hw2"** and **write a program** called "**shape1**" that controls the default turtle, turtle1 in the turtlesim window to navigate it to draw the following shape. The *star* sign specifies the starting location of your turtle. Your turtle must start at the star sign and come back to the same location. As soon as the turtle completes the drawing, it should stop. When navigating your turtle, specifying estimated lengths of lines or amount of time to travel is acceptable but not any "**hardcoded**" coordinate points.



The color of the lines is not important.
Make sure you comment the major functions or modules of your program.

(2) Under **the same package "hw2"**, **write another program** called "**shape2**" that draws the following shape or at least very similar one, again without specifying any hardcoded coordinate points.



(3) **Create a README file** including the detailed steps needed to build and test your programs. If I am not able to build your programs, you may only receive an effort score, possibly a lowest score, e.g., 5 - 30% of the total score.

(4) **Write a brief report** in **Word format** including **(a)** team name, ***member name(s)*** and **email addresses** of all members; the ***percentage contribution*** to this assignment for each member. If a team cannot reach a consensus on individual contribution, describe the individual's claimed percent contribution with a brief description on specific tasks performed; **(b)** a brief description on the key **strategy** used to accomplish the navigational goals and a **pseudo code** for your strategy (NOT source code); The source code you wrote should be turned in as a separate file, NOT in this report; (c) optionally provide reference(s) to the source of the program specifying the URL and author if some portion of your program was reused (or copied) from other people's code.

Warning: Although the code reuse is allowed for this assignment, copying the code from other person or team in this class is strictly prohibited. Any one or team violating this rule will receive **ZERO** score for this assignment.

How to submit this assignment

Include (a) your report, (b) **ONLY the text file(s)** you **created/modified** in **ONE zipped or compressed file** by **your (or team's) name** and submit it to **Titanium**. For example, if your team name is "ABC", then the zip file name should be **ABC.zip**. If the assignment was completed by a team, only **ONE** of **your team members** needs to submit your team's work.

DO NOT include any other ROS files you didn't change/add. DO NOT include the entire folder of your ROS workspace.

Grading policy

Your work will be graded based on the quality of your (or team's) work, considering the completion of the requirements and the written report.