Week 1 Assignment

1. Python Exercise

Python is a popular language used to write the code required for Automation within robots. One common type of task that the code might do is processing geometry.

Your task is to write a python program which converts between 2D Cartesian and Polar coordinates. You should prompt the user with two options
1. Polar to Cartesian   2. Cartesian to Polar

Take the users option as either 1 or 2. After this, prompt the user to input the required coordinates. Compute and print out the converted coordinates.

In your program you must have two functions, one which takes cartesian coordinates and returns polar coordinates and one to do the reverse. Your code should be well documented, making sure to use proper variable names and comment at crucial points.

2. Creating a Github Repository

Git is an essential tool for open source development and GitHub is the most popular git based code hosting service. Your task is to make a GitHub account, then create a repository named *Robotics-Automation-QSTP-2020* containing a README.md (with a short intro to the project) and an MIT License. Also create a directory called Week1 with your python code for Task 1 in it. We will be using this repository to document and store all future work in this course including the final project.

3. Short Quiz

A short quiz with questions on Python, Git, the Linux Terminal and ROS has been put up on google classroom. Feel free to look up the answers, the aim is to get you comfortable with these topics. This form is also available through google classroom.

4. Submission

The submission of **the python code** for Task 1 is to be uploaded to google classroom. A **link to the github repository** you create in Task 2 is to be submitted through the last question in the short quiz (same as Task 3).