**Task 4**

**Task 4.1**

1. Please, create a GitHub account and start uploading the Task you did before.  
   We need to organize our GitHub repository, our structure will be   
   - Task1 “directory”/(screenshot, pdf,...)  
   - Task 2 “directory”/(screenshot, pdf,...)  
   - Task 3 “directory”/(screenshot, pdf, diagrams,....).

Once you finish the task send me to github via Whatsapp.

Notes: how you can start upload to github:

1. Create a new repo.
2. Open terminal, choose where you will save your tasks, create a folder for each task.
3. Open the terminal with a specific location where you saved the tasks folder and start running the following commands.
4. git init
5. git remote add origin https://github.com/ACCOUNT\_NAME/REPO\_NAME.git
6. git add .
7. git commit -m "first commit"
8. git push origin main

**Notes**:

* Please upload the tasks on your GitHub account.

**Task 4.2**

Let’s create our Nodes and Topics over ROS.

We have a robot and the robot will have some sensors, Lidar, Depth camera, Encoder, IMU and RGB camera.

1. Let’s say the robot moves and publishes the encoder data over the Velocity node.
2. Let say you want to send a laser data from lidar and subscriber this data over a SLAM node.
3. Let's say you have a camera, publish RGB images and subscribe to the Localization node.
4. Let's say you publish the IMU data and subscribe to pose estimation and Localization nodes.

**Notes**:

* Your task is visualiza all these nodes and topics with accurate msgs names.
* Please upload the tasks on your GitHub account.

**Task 4.3**

Let’s create our Service client and Service response over ROS.

Let’s say we have a robot and the robot working inside a warehouse, you want to know what the robot sees every 30 minutes.

Your task is to visualize using the ROS service, how you can do that.

**Notes**:

* Your task is visualiza all these Service with accurate msgs names.
* Please upload the tasks on your GitHub account.