ROS Service Build Project

You will make two nodes.

- One Node which acts like a client which sends the request of an angle to turn the camera,
- Another node, which takes in the request and sends back a response which will be an image that the robot takes after moving the camera to the angle specified.

Since we do not have a real robot and have not learned about making robots work in simulation, we are just going to have some pre taken images which are named by an angle and return one of these images based off the request.

- These images are made available to you in the resources folder. It may be helpful to spend some time thinking about what message types would be ideal for our request and response in this project.

REVIEW OF INSTRUCTIONS:

In this project, you will be creating a service client node and a service server node.

- The service client will make a request to the server for our robot to turn the camera the desired angle, and our request server will process the request and issue a response, which should be the image at that angle.
- This image will be chosen from a selection of pre taken images which you can download from the resources section.

As an additional challenge once, the client has received the response. It will go ahead and display the image in an image display window so, the user can see the image that came in.

TIPS:

- One of the easiest ways to implement this is using the OpenCV library which comes installed with your Python3 on Ubuntu 20.
- You can utilize the CV2 and CV Bridge functionalities such as converting an image message to a CV2 image and using CV2 to create a display window for your image.
- Save your images folder in your scripts folder within your package.
- If in doubt – use ROS wiki