This write-up aims to explain the packages used to achieve home service functionalities. Some of these packages are **official ROS packages** and others are **packages that I create**.

Official ROS packages

- **gmapping**: With the gmapping_demo.launch file, I can perform SLAM and build a map of the environment with a robot equipped with laser range finder sensors or RGB-D cameras.
- **turtlebot_teleop**: With the keyboard_teleop.launch file, I can manually control a robot using keyboard commands.
- **turtlebot_rviz_launchers**: With the view_navigation.launch file, I can load a preconfigured rviz workspace. It will automatically load the robot model, trajectories, and map.
- **turtlebot_gazebo**: With the turtlebot_world.launch I can deploy a turtlebot in a gazebo environment by linking the world file to it.

My packages/nodes written for this project

- **pick_objects**: a node that commands the robot to drive to the pickup and drop off zones.
- **add_markers**: a node that model the object with a marker in rviz.