2nd task

# TASK:
# Use another ROS robot whit SLAM approach to create and save a map

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I deseeded to use diff drive bot, a robot with 2 wheeled differential drive.

## Steps:

Build a package in catkin workspace:

```
> $ git clone https://github.com/devanshdhrafani/diff_drive_bot.git
> $ cd ..
> $ catkin_make
```

Install the dependencies:

```
> $ sudo apt-get install ros-melodic-dwa-local-planner
> $ sudo apt-get install ros-melodic-joy
```

Using **SLAM gmapping:**

Launch the robot in Gazebo:

```
> $ roslaunch diff_drive_bot gazebo.launch
```

Launch the slam_gmapping node.

```
> $ roslaunch diff_drive_bot gmapping.launch
```

Move the robot around

```
> $ roslaunch diff_drive_bot joy_teleop_launch.launch
```

That by using joystick

Save the map:

```
> $ rosrun map_server map_saver -f ~/test_map
```

## Results: