Week 2 Homework – Hello World I & II + Getting Started Part III

1. In your own words, what is a ROS2 workspace and why do we create a folder like ros2_ws instead of just putting packages anywhere on the system?

2. Write the exact sequence of terminal commands (one per line) to:
   a. go to your home directory:

   b. create a workspace called ros2_ws:

   c. create a src folder inside it:

   d. build the empty workspace with colcon:

3. The example blinker command is:

```
ros2 run mkz_blinker blinker --ros-args \
 -p mode:=right -p duration_sec:=10.0 -p rate_hz:=20.0 \
 -p topic:=/vehicle/misc_cmd
```

   a. Explain what each parameter does: mode, duration_sec, rate_hz, and topic.

   b. Write a new command that would flash the left blinker for 30 seconds at 20 Hz on the same topic.

4. Launching the Ouster OS2 sensor:
   a. Explain how you obtain the Ouster OS2's hostname/serial number using avahi-browse.

   b. Write the ros2 launch command that starts the sensor node using sensor.launch.xml and a sensor_hostname parameter. Use a placeholder like os-XXXXXXXXXXXX.local for the serial number.