Module 1: Answers

1. What types of computing cores are available on the Jetson TK1?

There are 4 ARM A15 cores, 1 low power ARM core, and 192 CUDA cores on the GPU.

2. How can you remotely connect to the Jetson TK1?

- **Command line: using ssh**
- **Graphical: using a vnc client**

3. Describe the reasons for having the Arduino Mega run alongside the TK1.

The Arduino Mega handles low-level embedded functionality such as reading sensors and controlling the motors.

4. What components are directly connected to the battery?

The Jetson TK1 and the H-bridge shield.

5. Describe the capabilities of ROS nodes.

ROS nodes are processes that perform some computation. They can be reading a sensor and publishing the sensor value. They can also be used to send commands to the motors.

6. What does it mean for ROS Topics to be 'strongly typed.'

Topics can only send messages that are only of the correct type for that topic.

7. What command is used to clean out any recently compiled ROS nodes?

`catkin_make clean`

8. Describe the relationship between the Ubuntu Linux OS and ROS.

Linux is the actual running OS kernel. ROS is a framework that runs on top of Linux and provides messaging between ROS processes.

9. How are ROS nodes started?

The can be started using the `roslaunch` command.

10. How can you know what topics are available on a ROS system?

`rostopic list`