**Please write the answers in the blue book.**

1) Why does an autonomous robot need sensors?

2) For the NXT robot used in the lab, please explain what the NXT uses for its:

   - Actuators
   - Perception
   - Control
   - Power Source
   - Communications

3) What is a Switch block used for?

4) Explain how Deliberative Control of a robot works.

5) Give 2 reasons why you use gears with a robot.

6) Compare a Conditional Loop to an Infinite Loop.

7) Give an example of a mode of Locomotion.

8) Explain Static compared to Dynamic Stability.

9) Explain what an Algorithm is.

10) Why have a robot perform multitasking?

11) Why must a sensor be calibrated?

12) From the above flowchart, if the robot is turning to the LEFT, what is known about the light sensor reading?

13) Draw out a flowchart(diagram) showing a loop checking the sonar sensor. While the sensor reading is under 50, have motors B & C move forward. Otherwise have the motors stop.

14) What is the goal of Feedback Control?

15) Give an example of Behavior Based Control of a robot.

16) What is beneficial about robots working in a team?

17) Compare Coexisting and Tightly Coupled Coordination Strategies for robots working in a team.

18) Why is Kin Recognition very important for a team of robots?

19) Compared Centralized to Distributed Control of a Group of Robots.

20) What was your favorite thing that you learned in the class?