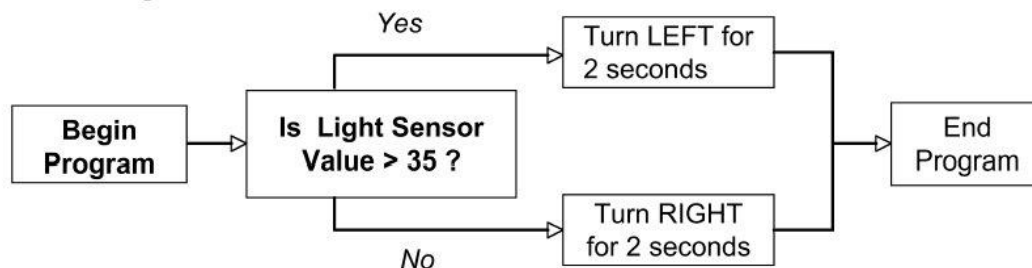


Please write the answers in the blue book.

- 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 preform **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?