











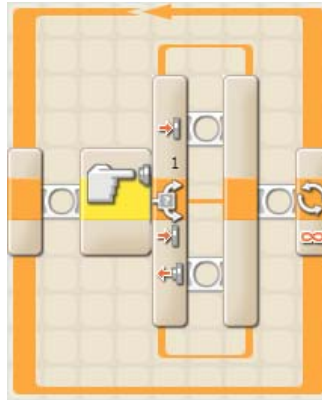
# BUILD IT

## Answers to Straight Line Challenge NXT Questions

1. Match each icon below with its name.

<u>Icons</u>	<u>Name</u>
	Loop
	Light Sensor
	Motor*
	Sound Sensor
	Switch
	Rotation Sensor
	Sound
	Ultrasonic Sensor
	Touch Sensor
	Display



2. You are trying to make an NXT program, and so far, here is what you have:



You want your program to run a motor when the sensor is pressed and play a sound when it is released.

• Which icon should you put in the top branch?

A)  B) 

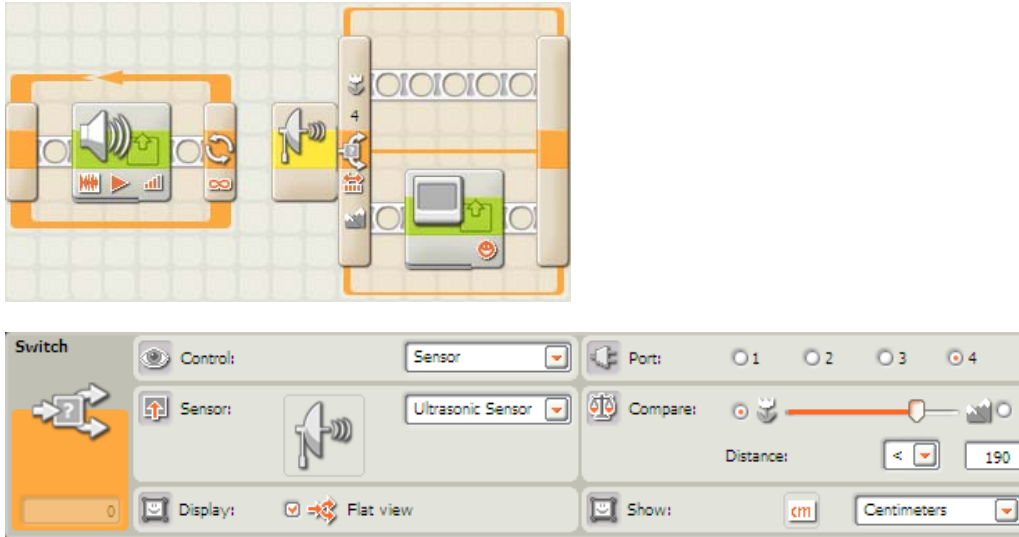
C)  D) 

• Which icon should you put in the bottom branch?

A)  B) 

C)  D) 

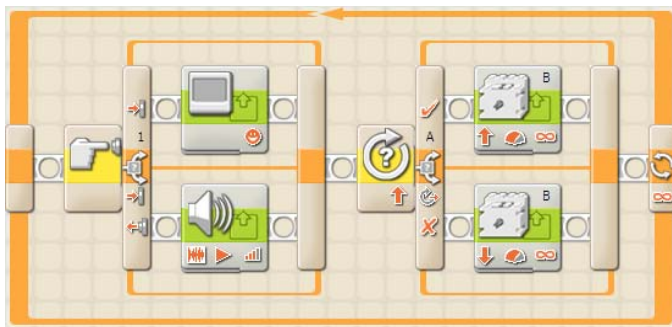
3. A friend of yours is trying to write a program that will draw a picture on the NXT screen if her hand is less than a foot from the ultrasonic sensor, or play a sound if her hand is further away. Here is the program so far, along with the control panel for the ultrasonic sensor:



What are the problems with the program, and what does she need to do in order to fix them?

- *The display icon should be moved into the top branch.*
- *The sound icon should be moved into the bottom branch.*
- *The switch should be placed inside the loop.*
- *In the control panel, the number should be changed to 12, and the unit should be changed to inches.*

4. Consider the following program:



What does it do?

- *When the touch sensor is pressed, a picture is drawn on the screen.*
- *When the touch sensor is released, a sound is played.*
- *A rotation sensor controls whether or not a motor in port B goes forward or backward. (However, it is not known what the angle is that would trigger the change from one branch to another.)*