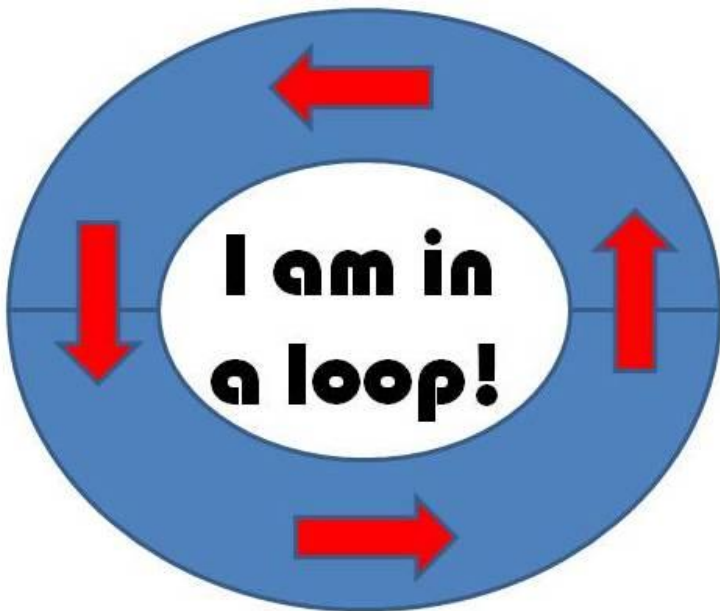


Using Waits, Loops and Switches



Waits, Loops and Switches Pre-Quiz

- 1. In programming, what is a loop?
When is a loop useful?**
- 2. How can you control the duration for
which a loop repeats?**
- 3. In programming, what is a switch?**

Waits, Loops and Switches Pre-Quiz

Answers

1. In programming, what is a loop? When is a loop useful?

A loop is an operator that allows us to repeat a set of commands indefinitely. Loops are useful when you need to repeat a set of commands multiple times.

2. How can you control the duration for which a loop repeats?

You can control how many times a loop repeats by clicking the dropdown arrow next to “Control” on the loop block and setting it to forever, time, sensor, count or logic.

3. In programming, what is a switch?

In programming, a switch is an object that gives different commands depending on the state it is in.

Wait Block Activity

Objective: Combine wait blocks, loops and switches to perform a task

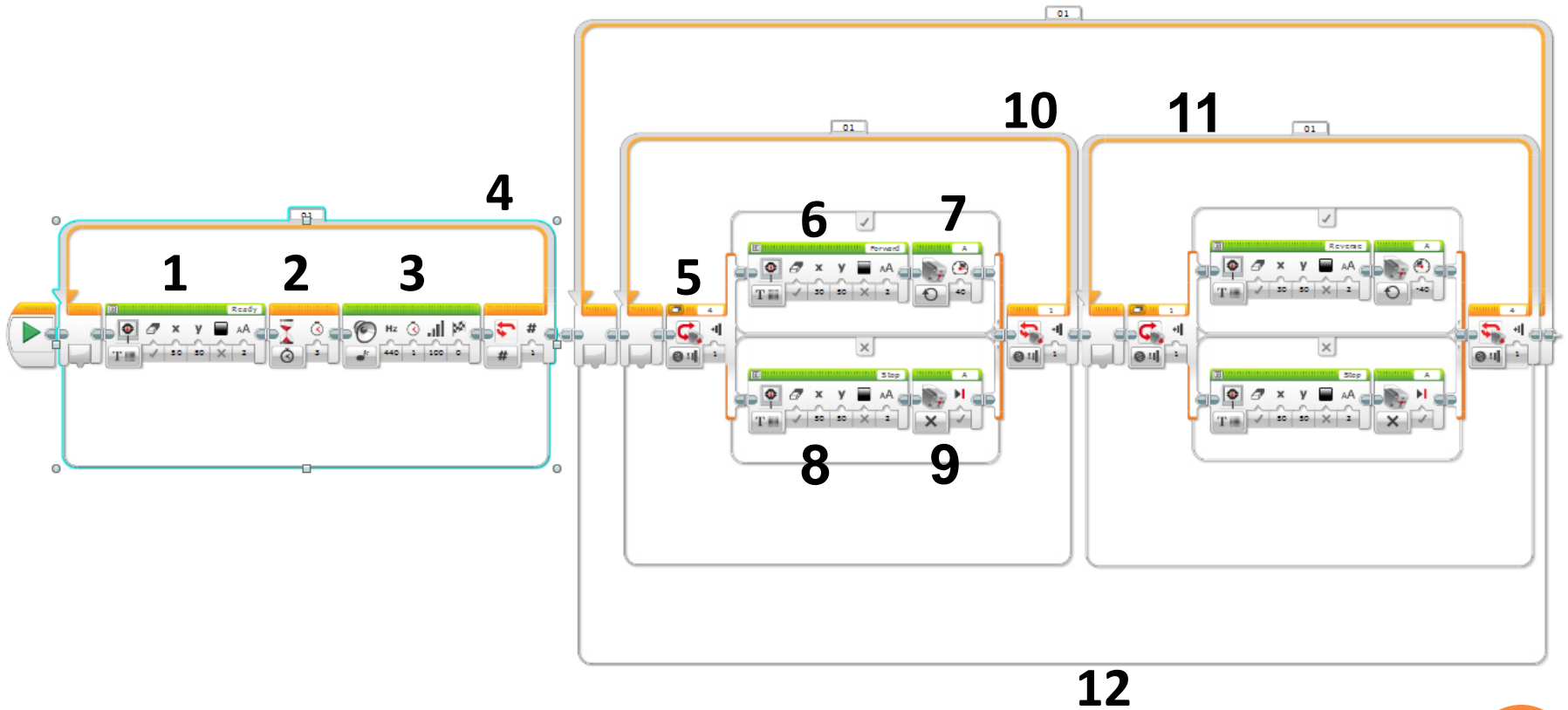
Do This: First, attach 2 touch sensors (name them A and B)

Then program the robot to perform the following task:

- Stay at rest and display “Ready” on the screen.
- Move left and display “Forward” whenever touch sensor 4 is pressed.
- Move right and display “Reverse” whenever touch sensor 1 is pressed
- Stay at rest and display “Stop” when no buttons are pressed.

*****Hint:** Click on the  icon, drag the block into the program, and select “Text” from the dropdown menu to display text on screen.

Wait Block Activity **Solution**



Wait Block Activity **Solution**

various
settings

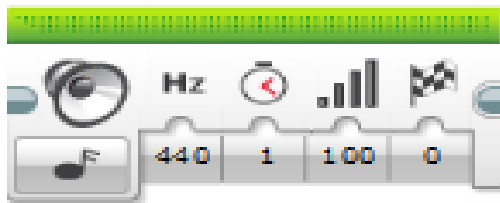
1



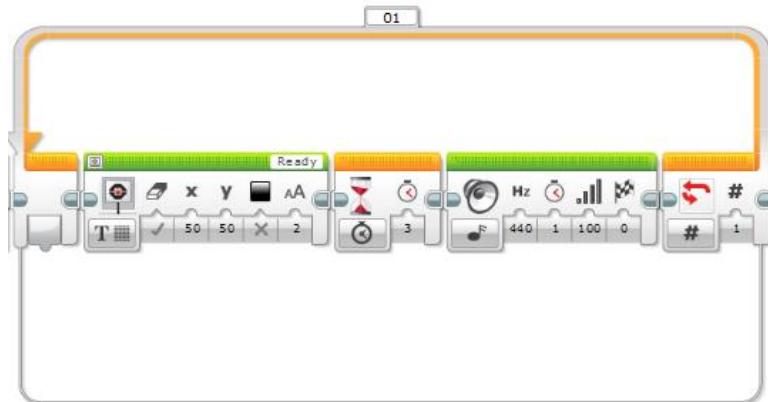
2



3

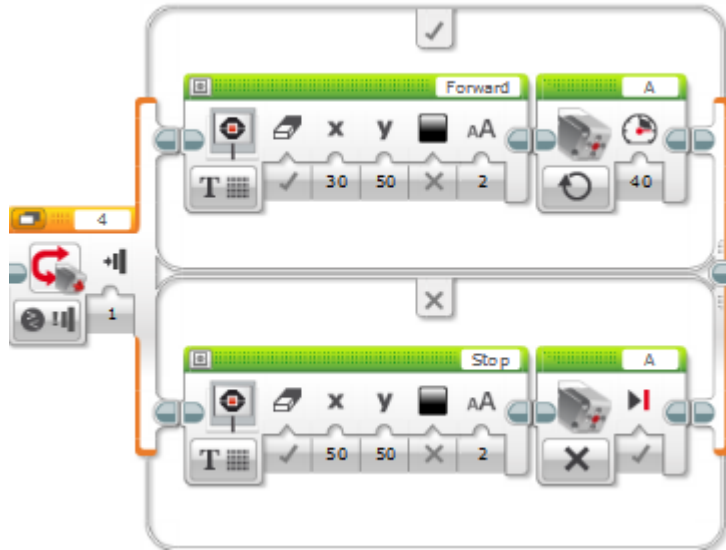


4



Wait Block Activity **Solution**

5



various
settings
(continued)

6



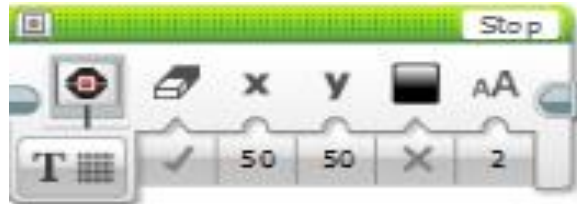
7



Wait Block Activity **Solution**

various settings (continued)

8



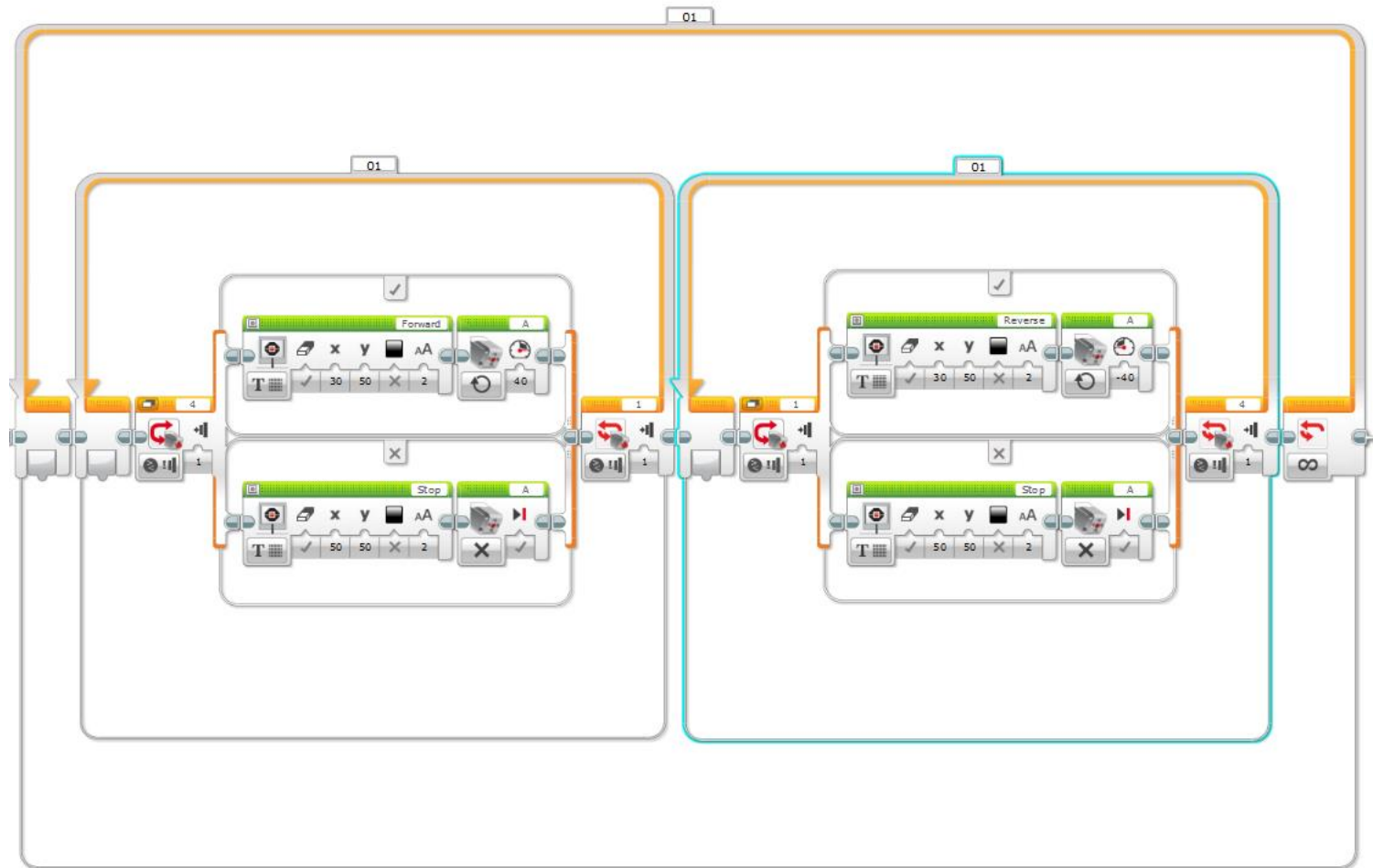
9



Wait Block Activity **Solution**

various settings (continued)

12



Waits, Loops and Switches Post-Quiz

- 1. In programming, what is a loop?
When is a loop useful?**
- 2. How can you control the duration for
which a loop repeats?**
- 3. In programming, what is a switch?**

Waits, Loops and Switches Post-Quiz

Answers

1. In programming, what is a loop? When is a loop useful?

A loop is an operator that allows us to repeat a set of commands indefinitely. Loops are useful when you need to repeat a set of commands multiple times.

2. How can you control the duration for which a loop repeats?

You can control how many times a loop repeats by clicking the dropdown arrow next to “Control” on the loop block and setting it to forever, time, sensor, count or logic.

3. In programming, what is a switch?

In programming, a switch is an object that gives different commands depending on the state it is in.

Vocabulary

brainstorming: Thinking of ideas as a group.

iteration: Doing something again, especially with the intent to make improvements.

loop: An operator that repeats a set of commands.

switch: In programming, a switch is an object that gives different commands, depending on the state it is in.

Images Sources

Slides 1: wall switch drawing; source: Microsoft® clipart: <http://office.microsoft.com/en-us/images/results.aspx?qu=light+switch&ex=1#ai:MC900441745>]

Device and programming images from LEGO MINDSTORM NXT User's Guide <http://goo.gl/wuhSUA>

Screen captures, diagrams and drawings by author