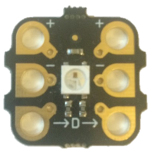
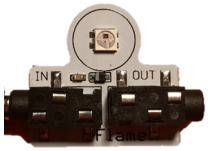
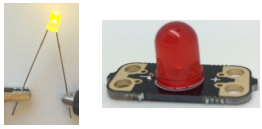
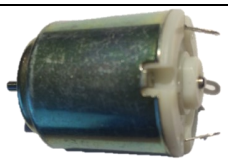
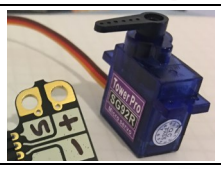
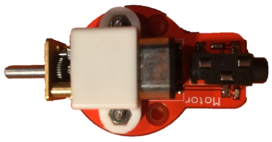
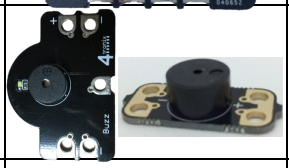
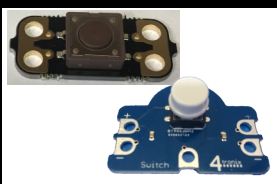
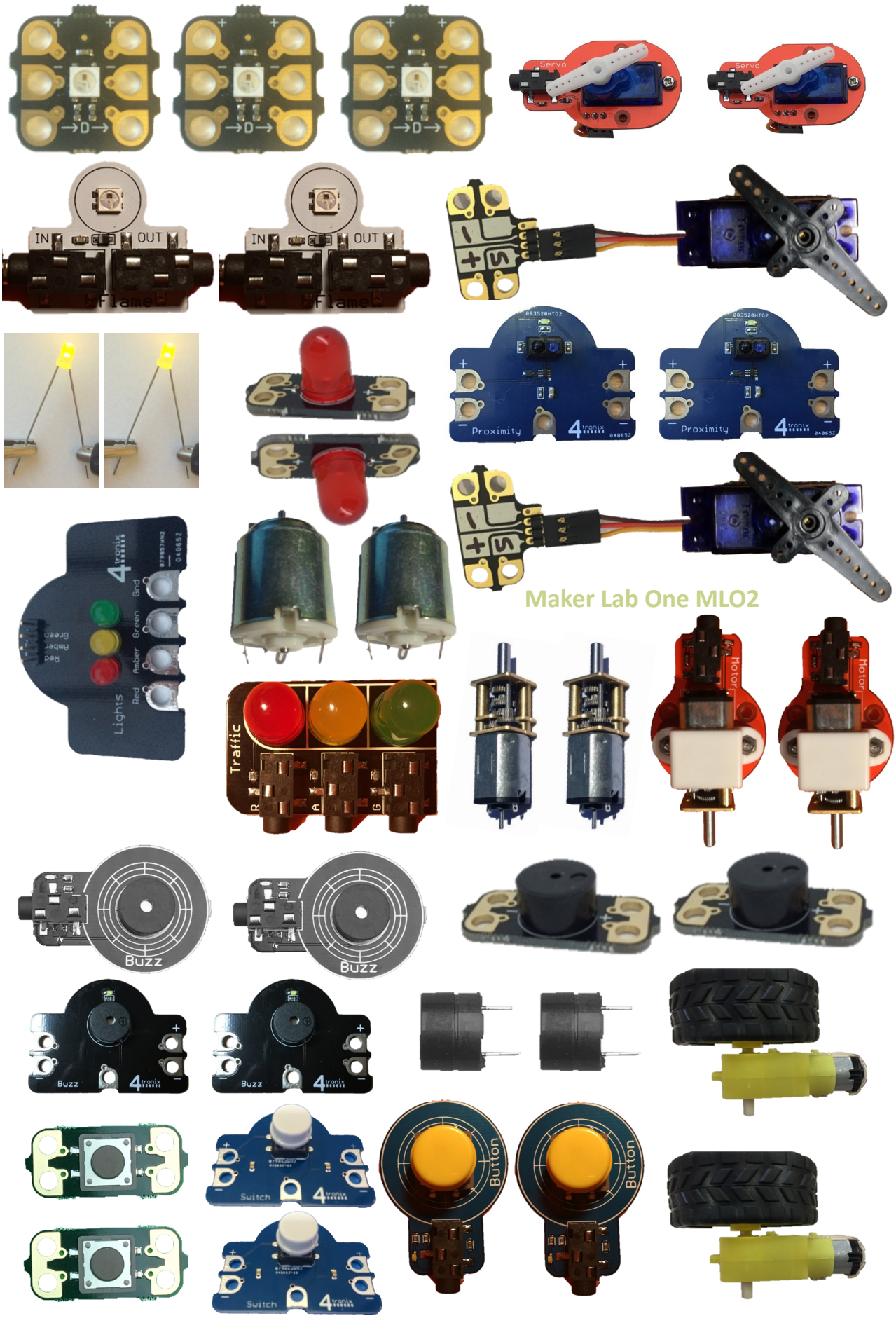
Output Name	Crumble Classic (Crocodile Clip)	Playground (Headphone)	Connections	Notes
Programmable Light			OUTPUT D	OUTPUTS COLOURS CAN CONNECT 32 LIGHTS TO ONE OUTPUT (D)
LED Light			OUTPUT A, B, C or D	OUTPUTS A COLOURED LIGHT ON HI OFF LO
Motor			MOTOR 1 OR 2	OUTPUTS FORWARD OR REVERSE POWER 0-100%
Servo Motor			MOTOR 1 OR 2	OUTPUTS MOVEMENT BACK AND FORWARDS -90-0-90 DEGREES
Geared Motors			MOTOR 1 OR 2	OUTPUTS FORWARD OR REVERSE SPIN POWER 0-100%
Traffic Lights			OUTPUT A, B, C or D	OUTPUTS RED GREEN AMBER ON HI OFF LO
Buzzer			OUTPUT A, B, C or D	OUTPUTS ONE TONE SOUND ON HI OFF LO
Piezo Buzzer			MOTOR 1 OR 2	OUTPUTS DIFFERENT TONE WHEN POWER 0-100% PASSED THROUGH
Input Name	**Classic Crumble**	**Playground**	**Connections**	**Notes**
Push Button Switch			INPUT A, B, C or D	CAN BE USED TO START, STOP OR CHANGE OUTPUTS LISTED ABOVE
Close Proximity Sensor			INPUT A, B, C or D	CAN BE USED TO START, STOP OR CHANGE OUTPUTS LISTED ABOVE


Servo
Servo
IN
OUT
IN
OUT
Proximity
Proximity
Maker Lab One MLO2
Lights
Red
Amber
Green
Gnd
Traffic
Motor
Motor
Buzz
Buzz
Buzz
Buzz
Switch
Switch
Button
Button

Name _____ Class _____ Maker Lab 1 MLO3

Planning my maker lab one project

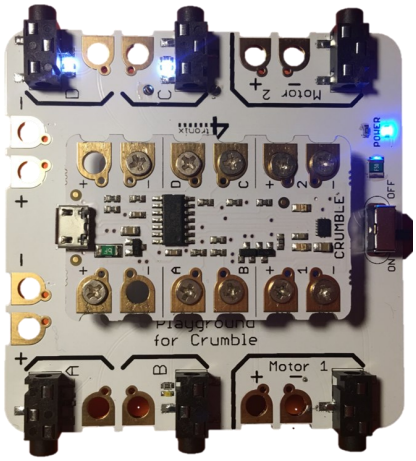
Big idea 1	Big idea 2
What outputs will be changed, started or stopped by which inputs (button/close proximity sensor)?	How long will each part of your program last?
In what order will things happen? 1 2 3 4 5	Will anything happen when the input is not triggered?

PORTS	DEVICE	INPUT OR OUTPUT
A		
B		
C		
D		
MOTOR 1		
MOTOR 2		

Name _____ Class _____

MLO4

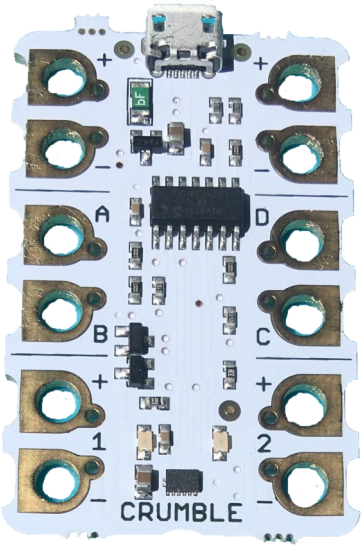
Maker Lab One Wiring Diagram



Draw your devices and the wires that connect them.

Name _____ Class _____ MLO5

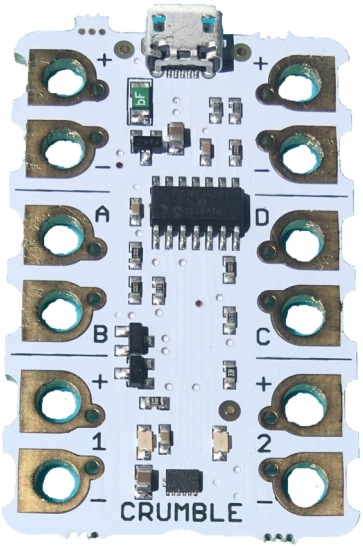
Maker Lab One Wiring Diagram



Draw your devices and the wires that connect them.

Name _____ Class _____ MLO5

Maker Lab One Wiring Diagram



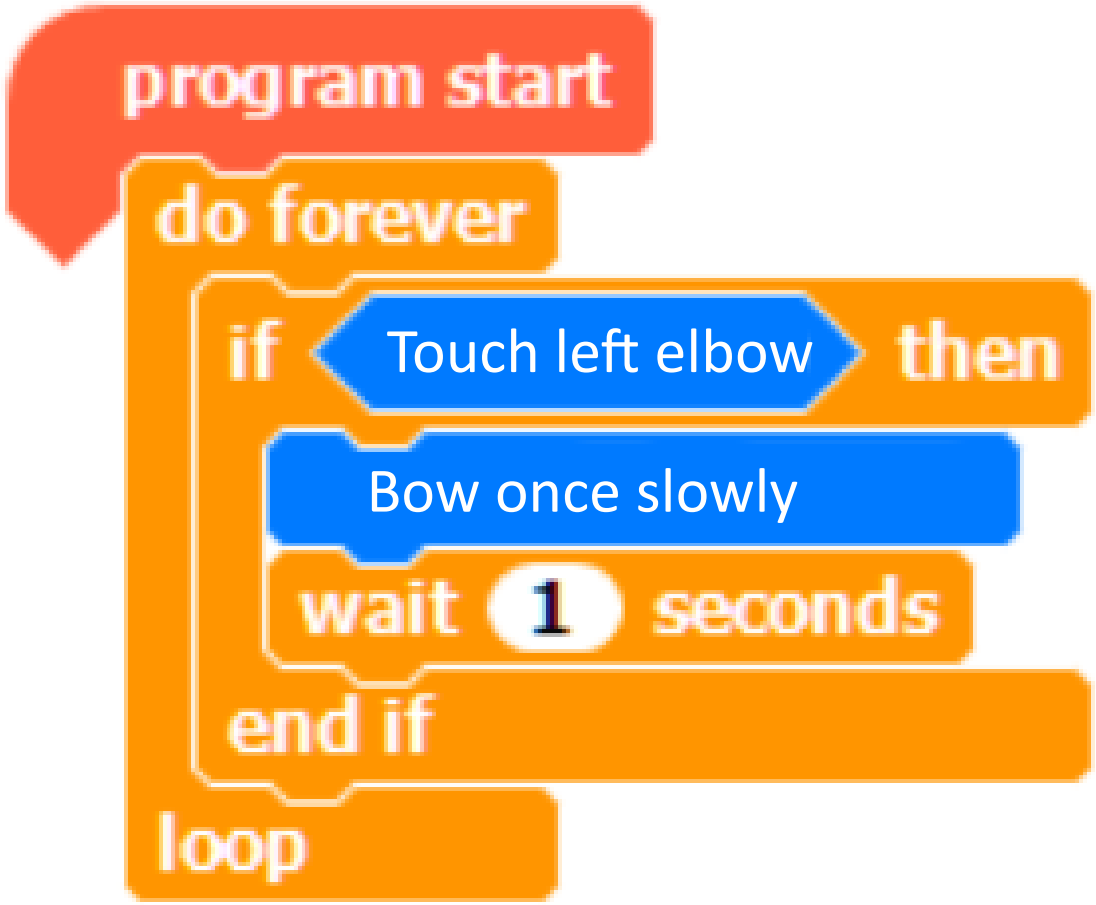
Draw your devices and the wires that connect them.

MLO6

Work in pairs

One person is the **Program** and does what the code instructs.

One person is the **User** who triggers the condition through their actions.

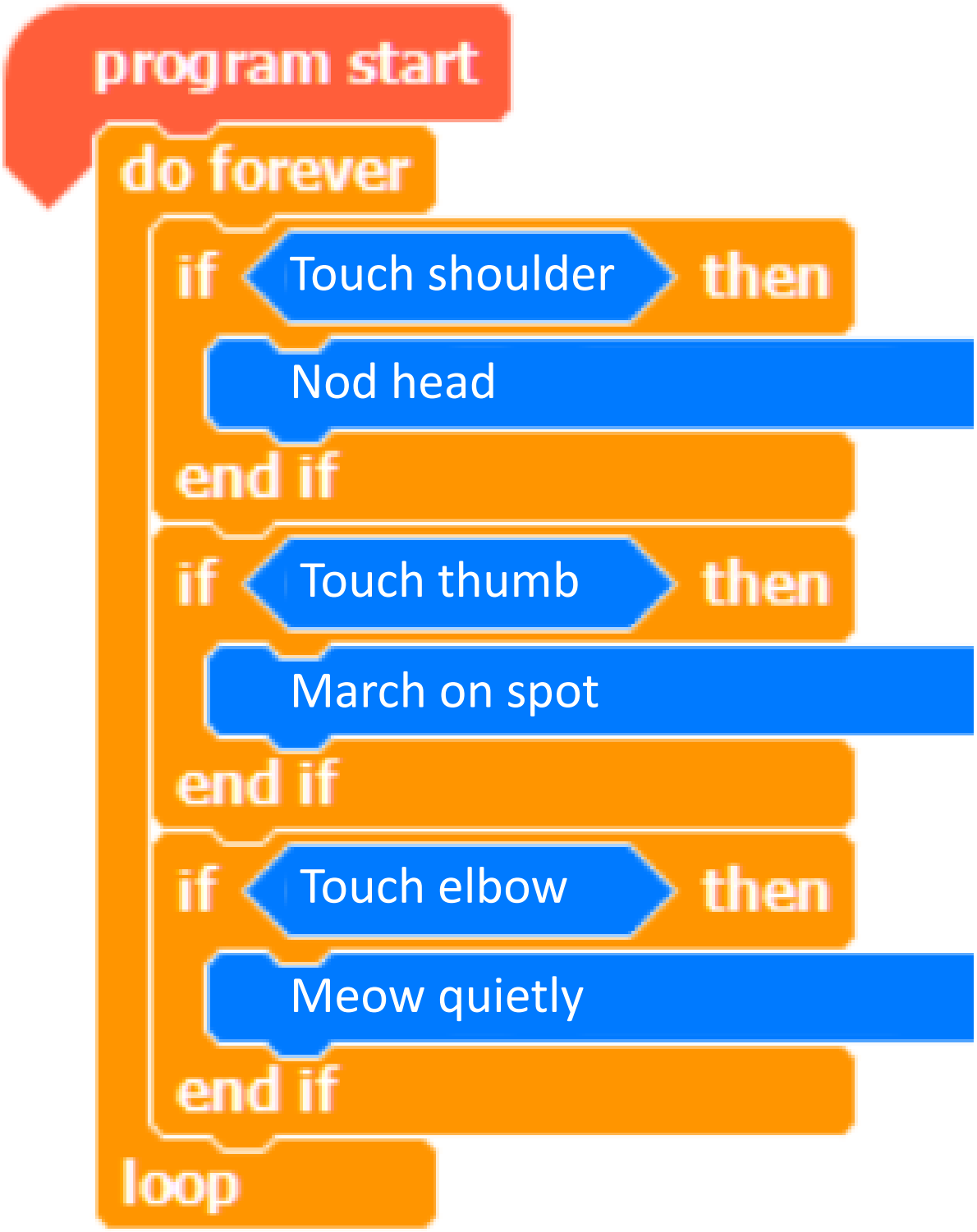


Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below.

One person is the **User** who triggers the conditions.

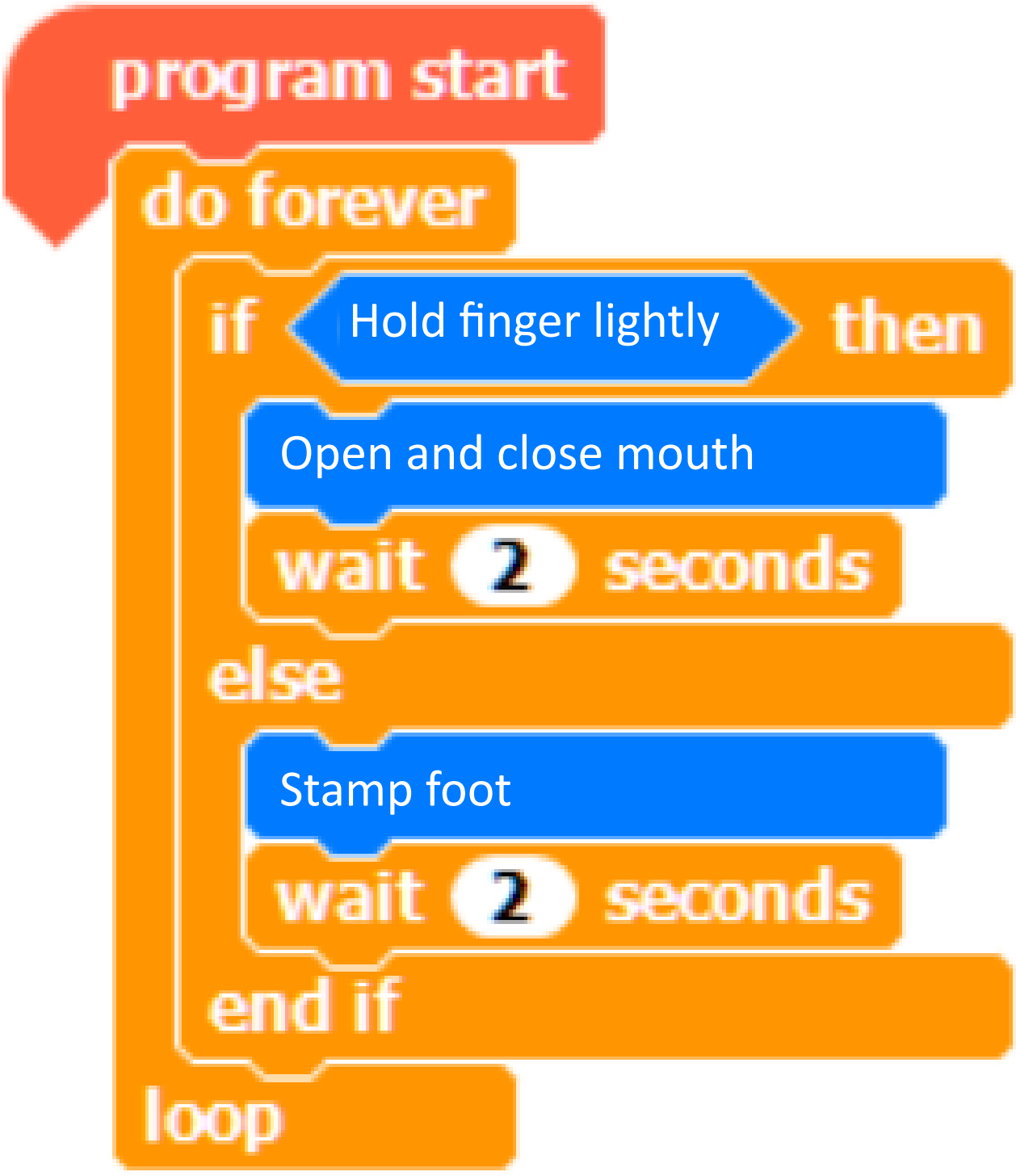


Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below.

One person is the **User** who triggers the conditions.

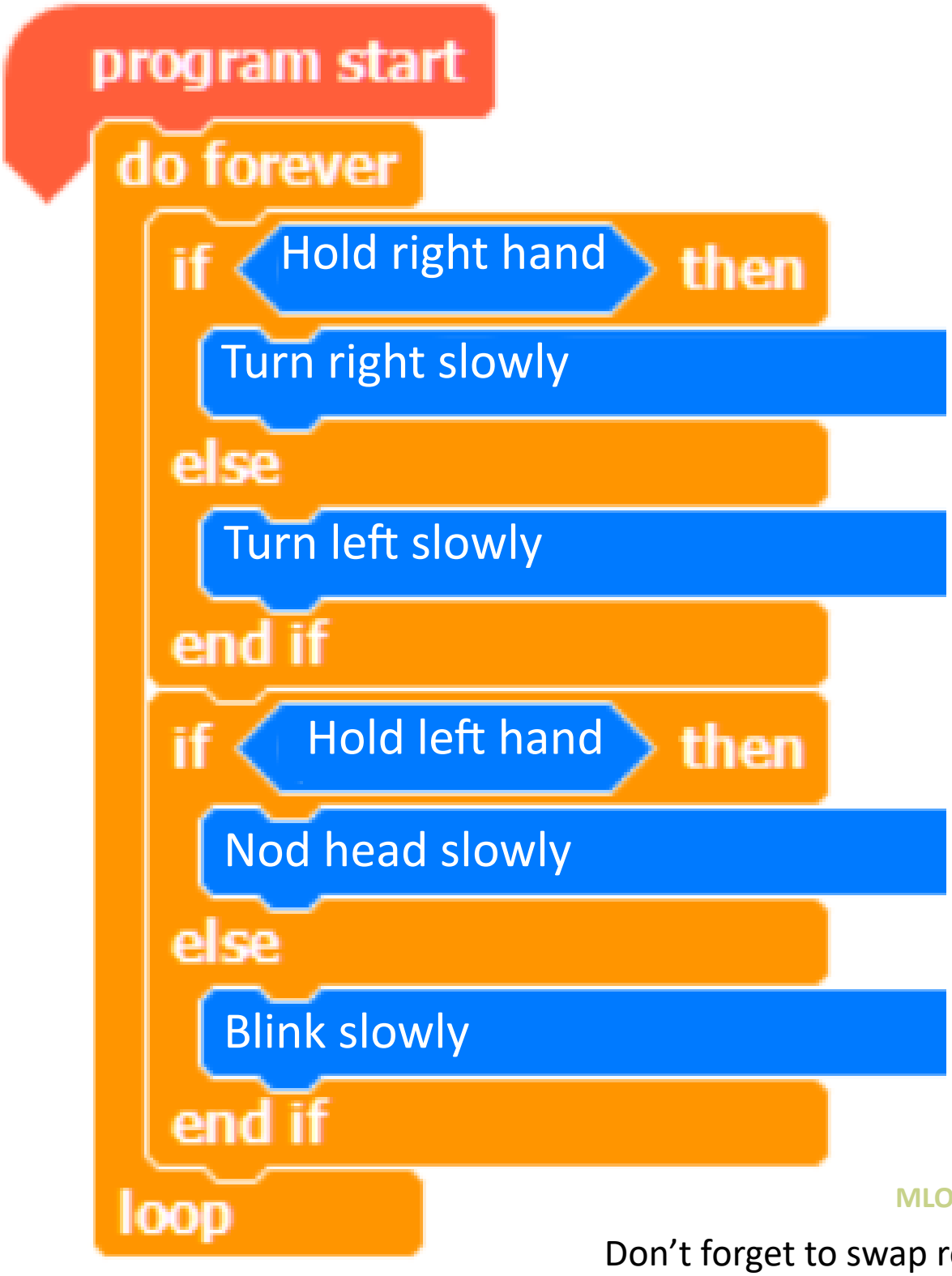


Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below.

One person is the **User** who triggers the conditions.



MLO9

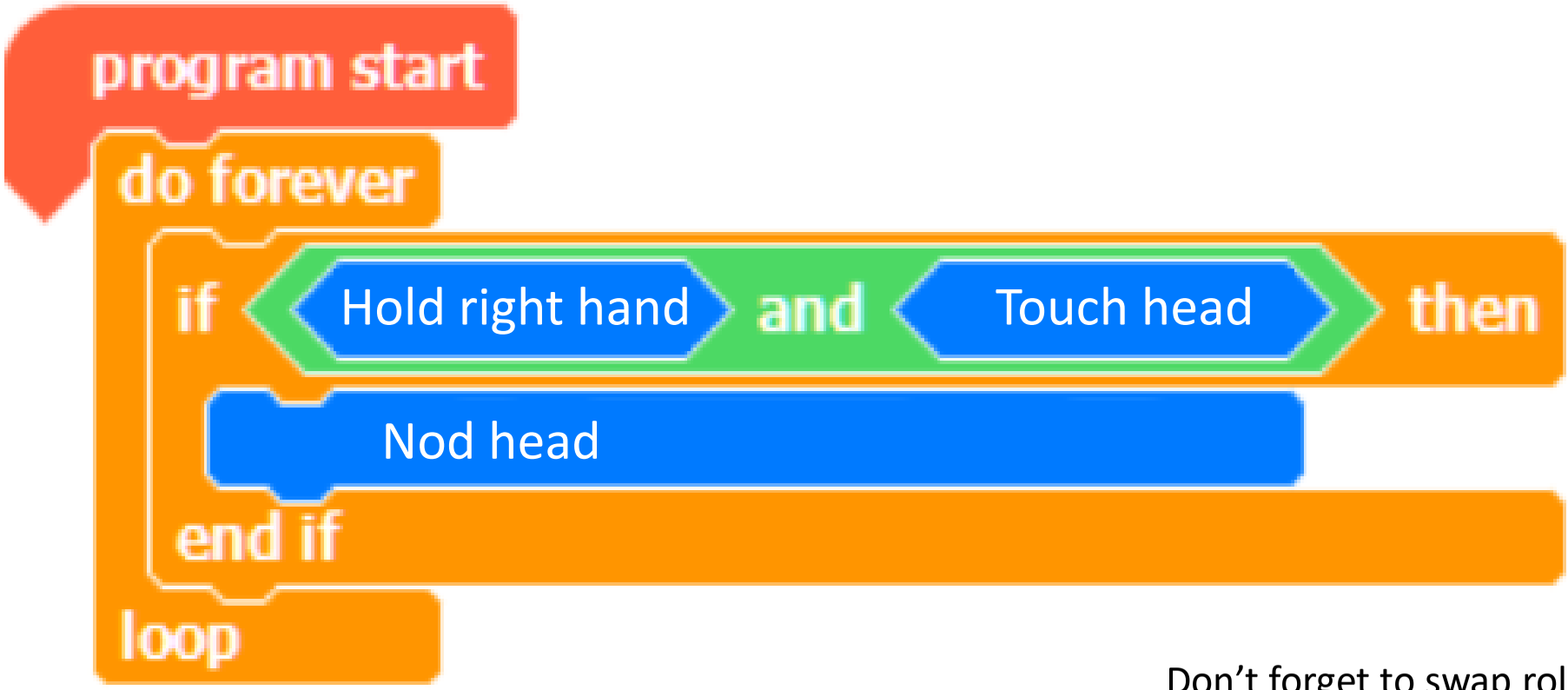
Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below (they hold this sheet).

One person is the **User** who triggers the conditions.

AND Means that both conditions have to be met for the code to start.

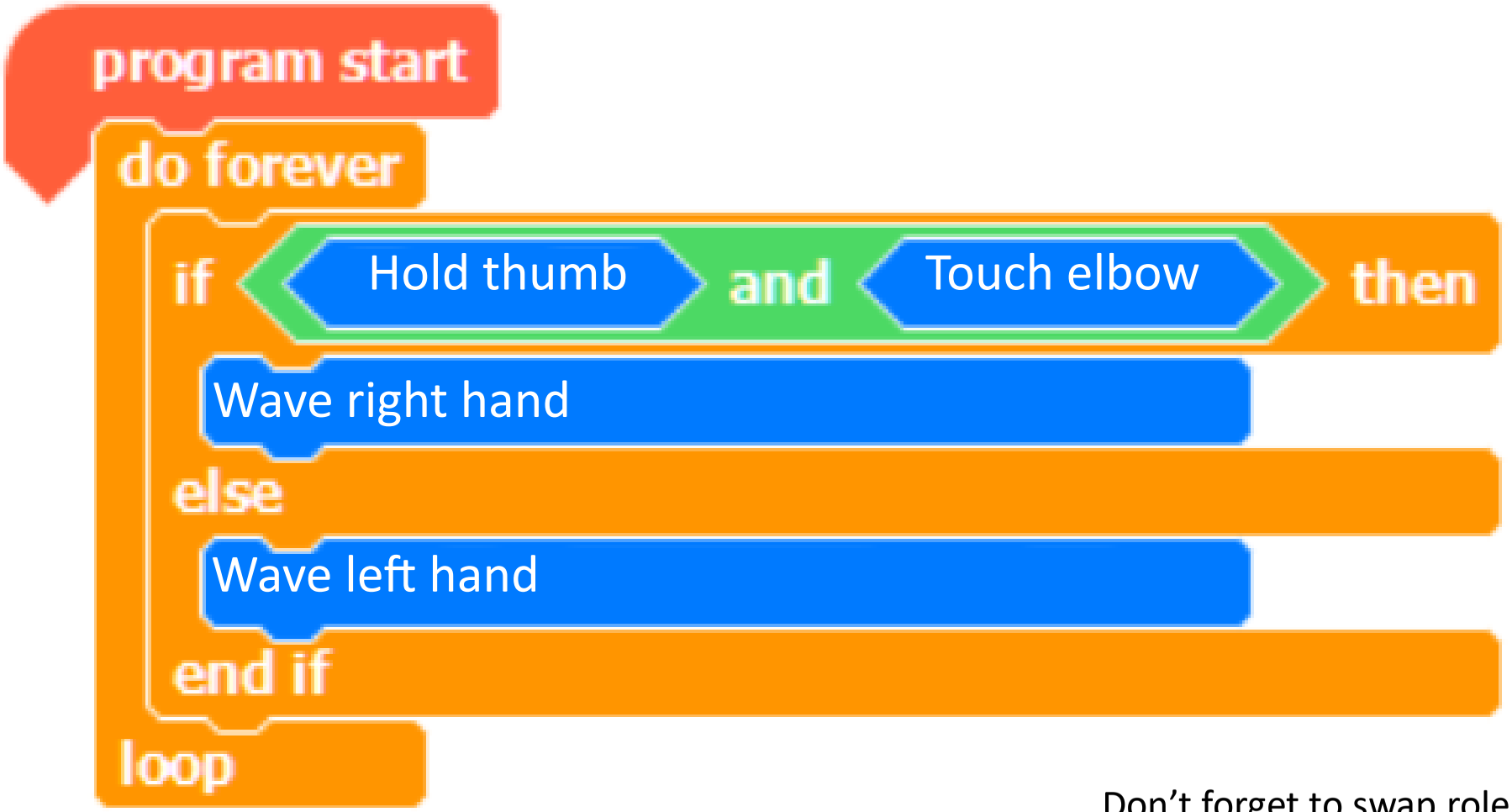


Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below (holds code).

One person is the **User** who triggers the conditions.

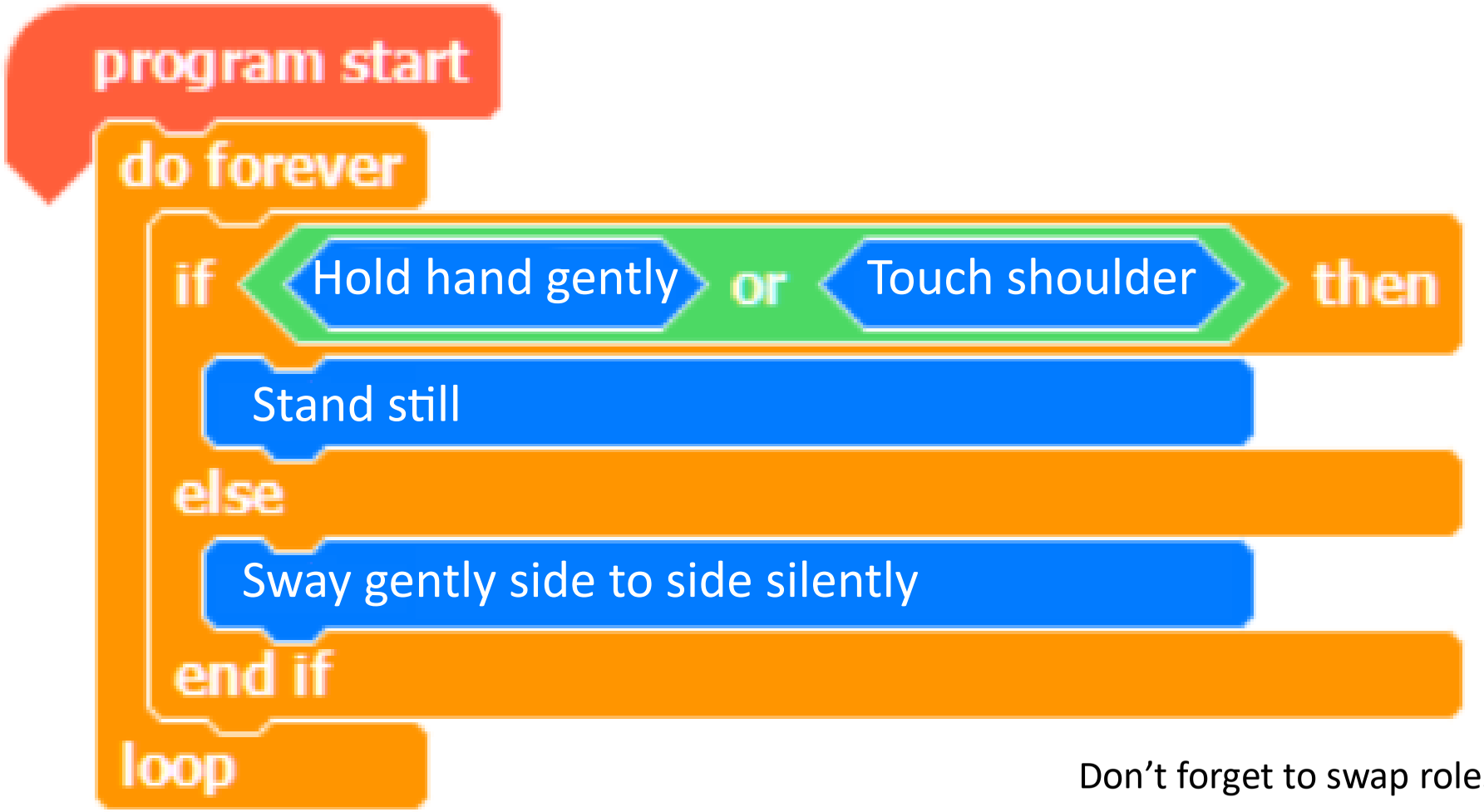


Don’t forget to swap roles.

Work in pairs

One person is the **Program** and does what is in the code below (holds code).

One person is the **User** who triggers the conditions.



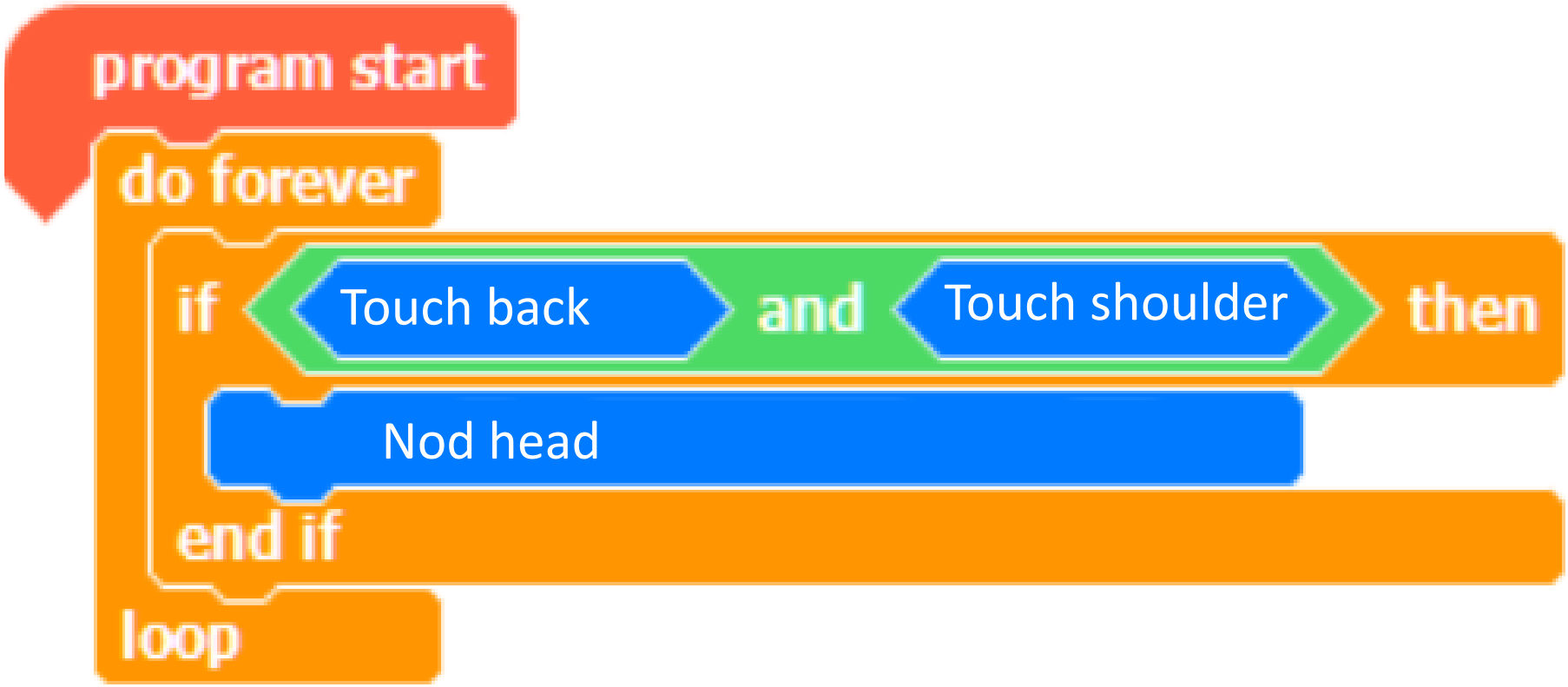
Don’t forget to swap roles.

MLO13

Work in pairs

One person is the **Program** and does what is in the code below (holds code).

One person is the **User** who triggers the conditions.



Don’t forget to swap roles.

Maker Lab One Assessment Sheet Name _____ Class _____

MLO14

I did this well

I did this ok or I did this a little

I tried this but it didn't work or I didn't do this at all

I thought of some big ideas.	
I added more detail to one of my ideas.	
I drew an accurate wiring diagram.	
I wired up my Crumble and accessories.	
I fixed any part of the wiring that wasn't working.	
I programmed my idea independently.	
I tested my idea to see if it worked.	
I added something new after I got my initial idea working.	
I debugged a part of my program.	

Sticker	I got this sticker for
Sticker	I got this sticker for
Sticker	I got this sticker for

Maker Lab One Assessment Sheet Name _____ Class _____

MLO15 B = Where you are **before** the project A = Where you are **after** the project		I don't understand what it is yet	I know what it is but don't do it yet	I do it a little	I do it a lot	I do it a lot and can explain how
1	I can evaluate my solutions against set criteria.					
2	I can design criteria to evaluate my creations.					
3	I can contribute useful ideas to a partner or group.					
4	I can encourage others to share their ideas.					
5	I lead using all the people talent in my group.					
6	I learn from setbacks and don't let them put me off.					
7	I can persevere even if the solution is not obvious.					
8	I look for a range of solutions to the same problem.					
9	I look for how a project can be extended.					
10	I can break complex problems into parts.					
11	I can concentrate on the most important part of a problem.					
12	I can identify patterns in problems & solutions.					
13	I can adapt existing ideas to solve new problems.					
14	I make predictions about what will happen.					
15	I experiment through predicting, making, testing & debugging.					
16	I can develop, test and debug until a product is refined.					