

GIRLsmarts: Kodu Workshop Guide



Introduction

Double click on the Kodu Game Lab icon labeled “Feeding Turtles” to start the Kodu program. You can move left and right between the worlds using the right control stick and select a world by pressing the “A” button. From there, choose “Play” from the menu.

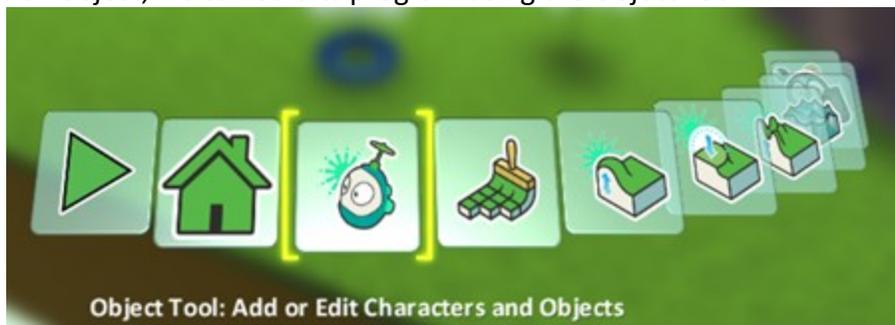


In this world, there are three apples scattered around and three turtles in the pond. The goal of the game is to program the white Kodu to feed the apples to the turtles. Since you're working in partners, start with one person using the controller and we'll switch partway through.

Let's start!



Since the Kodu is an object, we can edit its program using the Object Tool

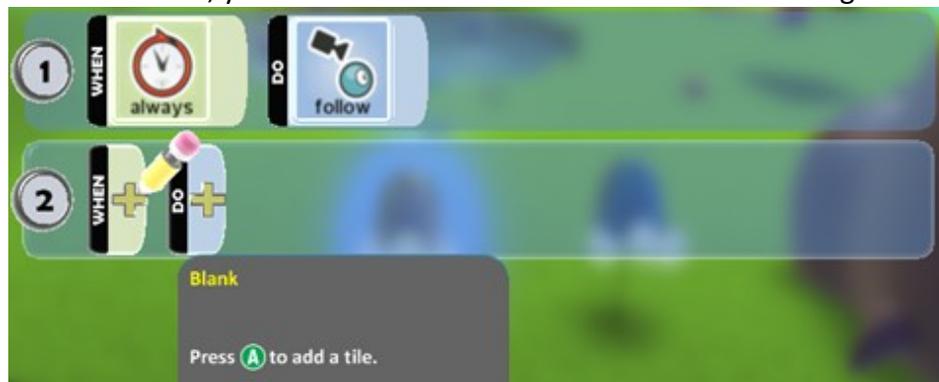


Move your left joystick to the Object Tool icon and press the “A” button to enter.



Now you can use the left joystick to control the little blue circle. Move the circle towards the white Kodu until it is highlighted. Press the “Y” button to program the Kodu.

This screen is where you can program your Kodu. The first line has been used to set the camera controls in this world. For now, you can leave the first line as is and start working with the second line.



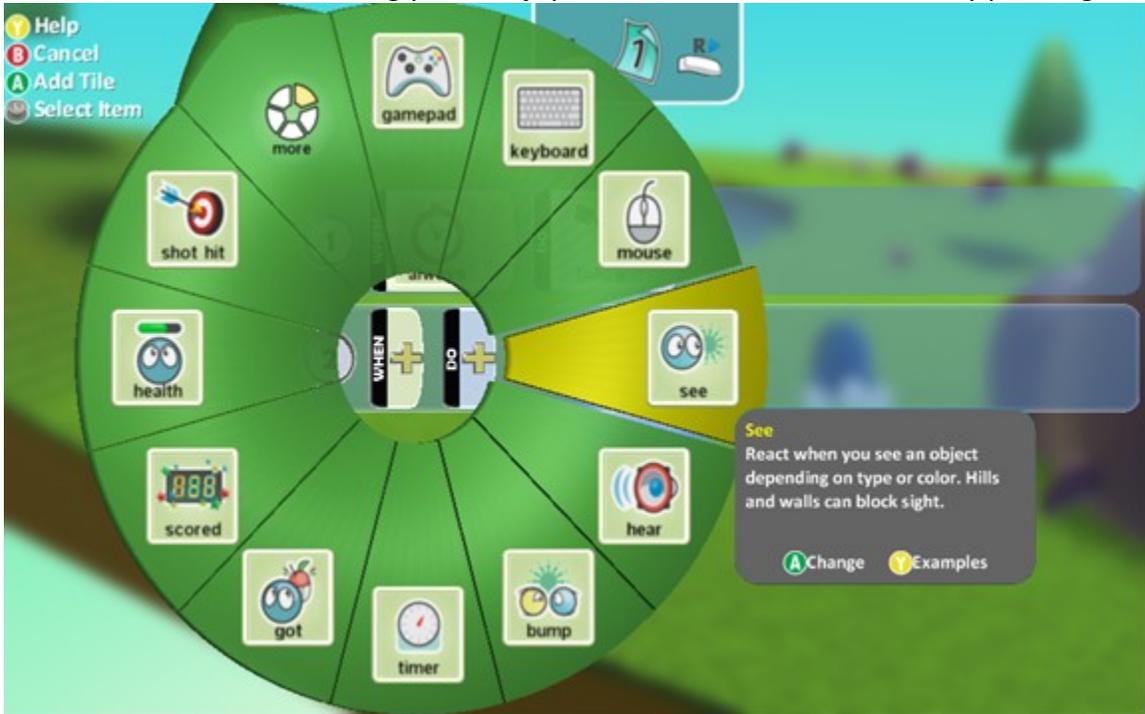
Each line in the program is an instruction for Kodu. Each instruction is defined with a “When” event to which Kodu will “Do” something. To program Kodu, you have to phrase your instruction in the form “When...[something happens] do...[some action]”

Instruction: get Kodu to move towards an apple

We can phrase this instruction as “When you see an apple, move towards it.”

Move your pencil towards WHEN and press the “A” button when the pencil is hovering over the “+” sign. This allows you to add a programming tile.

You can move around the menu using your left joystick and add a tile to the line by pressing “A”.



For now, let's add the tile “See” to the line.

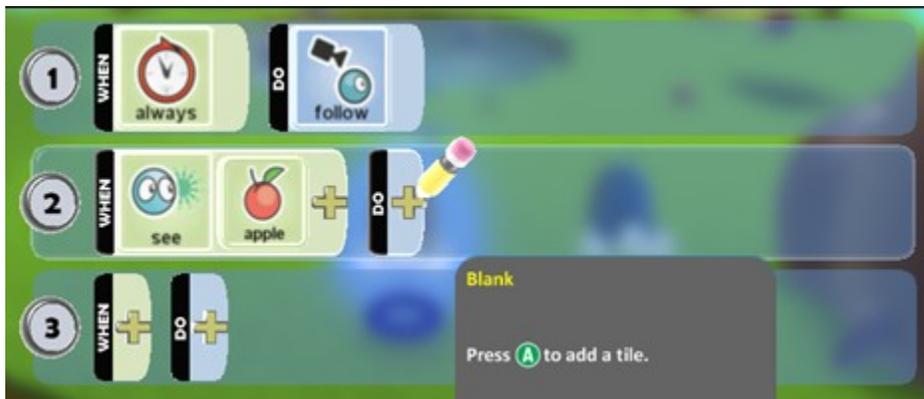
What do we want Kodu to see? An apple! Select the plus sign again and bring up the following menu:



There isn't an Apple tile here, but an apple is an Object, so let's try that. The Objects option has a little triangle on the outside of it, which means it will expand into another menu.

Now we're in the Objects menu, and we've found the Apple tile. Select it using “A” to add it to the line.





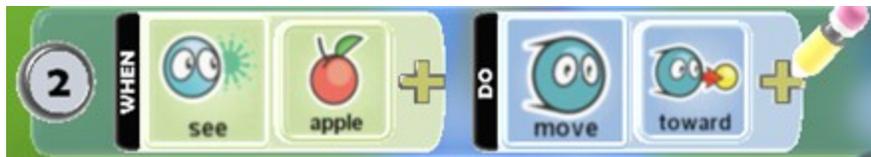
We've completed the first part of the instruction: "When you see an apple..."
 Now on to the "Do" part! Select the plus sign beside DO to add a tile.

We want Kodu to move when it sees an apple, so let's add that to the DO section.



In what direction do we want Kodu to move? Towards the apple, of course.

So now your line 2 should look like this:



Let's see what our Kodu can do so far!

Press the "B" button to exit the programming menu. Press "B" again to close the Object Tool menu.



Navigate to Play Game and press "A" to enter.

Instruction: have Kodu pick up the apple

We can only give Kodu one instruction per line. So now go to line 3 and add the following tiles:

WHEN:	Bump	Apple	DO:	(Holding)	Grab
					

When we let the program play (Play Game option from the main menu) we see that Kodu now knows to go towards an apple and pick it up. However, when it sees another apple, it goes over and tries to pick that one up as well. Kodu can only hold one thing at a time, so it's looking a little confused.

Pages



changing the set of instructions that Kodu follows

At the top of the programming view you can find this:



The "L" and "R" buttons tell you how to switch to a different page and the number tells you which page we are working on. Right now, we're on Page 1.

You can think of pages as different instructions that Kodu will follow. Suppose you want Kodu to stop doing a certain action once something has completed (like stop trying to pick up apples when it already has one) you can tell it to change to another page and do the instructions there instead. This gives Kodu the ability to do something different if a certain event has occurred. This is called switching pages in Kodu world.

Switch the controller with your partner!

We're moving on to Page 2!

Instruction: change Kodu's actions for when it is holding an apple

In the programming menu, add the line:

WHEN:	Got	Apple	DO:	Switch	Page 2
					

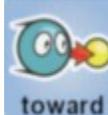
We'll use Page 2 for our new set of instructions for convenience, though you could choose any page number you like. Just make sure to put the correct instructions on the corresponding page!

Instruction: (while holding an apple) have Kodu move towards a turtle

First, we have to change our programming page to Page 2 and add our instructions there. Press the small “RB” button on the front of your controller to flip the page. You should see this at the top:



Add the line to Page 2:

WHEN:	See	(Bots II)	Turtle	DO:	Move	Toward
						
	see	bots II	turtle		move	toward

When we let the program play, once Kodu grabs an apple, it switches to the set of instructions on the second page, which tells it to move towards a turtle. Now you can watch it chase the turtle around!

Instruction: have Kodu give the apple to a turtle

Add to Page 2:

WHEN:	Bump	(Bots II)	Turtle	DO:	(Holding)	Give
						
	bump	bots II	turtle		holding	give

Hurrah! Now Kodu has fed a turtle! Notice at the top right corner, the white number has gone from 0 to 1 (you can run play again if you missed it!) The white score keeps track of how many times you've fed an apple to a turtle.

Instruction: have Kodu feed all apples to the turtles

We want Kodu to start looking for apples again, so let's switch back to Page 1 (which already has instructions for apple hunting). We can set Kodu to switch back when it no longer holds an apple.

Add line to Page 2:

WHEN:	Got	Not	Apple	DO:	Switch	Page 1
						
	got	not	apple		switch	page 1

Now if you select Play Game, you can watch Kodu feed the turtles! If all has gone well, the white number at the top right should say 3 at the end and Kodu stops moving after all three apples are gone.

Congratulations!

You have successfully helped the blue Kodu feed the turtles!