

NetLogo Lab

- 1 Create a **setup** button in the *interface*. Connect it to a function in the **procedures** tab that does the following:
 - clears the world using `clear-all`
 - creates 1 turtle using `crt 1`
 - creates 10 patches whose color is green.
use the following command to set the color of a randomly chosen patch:
`ask patch random-pxcor random-pycor [set pcolor green]`
 - put the turtle in a randomly chosen patch that you created. use the following command to place a turtle:
`ask turtle 0 [setxy random-pxcor random-pycor]`
Note that turtles are given numbers starting with 0. Since you have only created one turtle, its number will be 0.
- 2 Create a **move** button that simulates your turtle moving from one patch to another by using `forward 1` to go forward one patch.
- 3 Create a **turn** button that simulates your turtle turning to the right by 10 degrees by using `right 10`.
- 4 Try running your program to see what happens.
- 5 Now modify the code so that the **move** button is a “forever” button. You may need to adjust the speed (see the slider above the 2D viewing area) so that you can watch the turtle move around the screen. Try running your code again.
- 6 Now try adding a scoring mechanism. Every time your turtle lands on a green patch, you get a point. Use a **Monitor** to show the value of the score. Run it again to make sure it does what you want.
- 7 Now try adding more patches of another color. Do you want the score to increase more or maybe decrease when the turtles cross the other patches? Or maybe you want the patches to do something like change the turtle’s direction. You make the design decision and then implement it.
- 8 Now try adding more turtles.
Do you want to increase the score whenever *any* turtle crosses a green patch? or only the first turtle (turtle 0)?
Do you want the control buttons (“move” and “turn”) to control all turtles or only the first turtle? Do you want other control buttons to handle more turtles?
You make the design decisions and then implement.