

## Introduction to NetLogo Assignment Solutions

1. Explain what the following commands do by either referring to the Programming Guide or trying them out. (If you try them out, make sure you leave space where space is required.)

(a) `cct 20 [set color red fd 10]`

Create 20 red turtles and ask them to move forward 10 steps

(b) `ask turtles [pendown repeat 10 [fd 1 set color color + 10] ]`

Ask all the turtles to move draw while repeating the following sequence ten times: move forward one step and then change color.

(c) `ask turtle 1 [hatch 1 [fd 1]]`

Ask the turtle with who number 1 to give birth to a new turtle which moves ahead of the the parent by one step

(d) `ask turtles [set heading random 360 fd 10]`

Ask all the turtles to aim in a random direction between 0 and 360 degrees and then move forward 10 steps

(e) `ask patch 0 0 [sprout 1 [set color green]]`

Ask the patch with coordinates (0,0) (the center patch) to create one turtle which is green.

(f) `ask turtles with [color = red] [die]`

Ask all the red turtles to die

2. Write down commands that will do the following:

(a) cause all turtles to change the color of the patch that they are on to yellow.

Ask turtles `[set pcolor yellow]`

(b) cause turtle with who number 5 to draw a regular pentagon with sides of length 5 pixels.

Ask turtle 5 `[ pendown repeat 5 [fd 5 rt 72]]`

(c) cause a turtle to draw a square path with length equal to its who number.

Ask turtles `[ pendown repeat 4 [fd who rt 90 ]]`

(d) cause all the turtles on the left side of the screen to disappear.

Ask turtles `[if xcor < 0 [die]]`