



CS108L Computer Science for All

Module 5: Bumper Turtles EXTENSION

To complete the Module 5 Extension you will turn in a new program that extends the Flocking Model in the Netlogo Models Library.

Locate the Flocking Model by clicking File, then Models Library, then Biology, then Flocking. Save the file to a new name using “Save as” under the File menu, following the naming specification in the rubric below.

You will keep the same functionality of the flocking model when the user clicks go. You will add two new buttons that the birds must avoid while still maintaining flocking behaviors. Follow instructions in this rubric for implementation details.

| Module 5 Extension Rubric (20 points total) | | |
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| Done | Points | Task |
| | 1 | A: <ul style="list-style-type: none">• Submit a NetLogo source code with the file name: <code>M1.firstname.lastname.nlogo</code>.• The first few lines of your Code tab are comments including the following: ;Student's Name: ;School: ;Teacher's Name: ;Date: |
| | 3 | B: <ul style="list-style-type: none">• The code in the code tab of your program is appropriately documented with inline comments. In addition to the normal comments you include in all programs, all new procedures you add contain a comment “This procedure extends the original Flocking Model” |
| | 2 | C: <ul style="list-style-type: none">• Include a description of you modified code in the Info tab. See Coding Standards Guidelines for more information.• |
| | 2 | D: <ul style="list-style-type: none">• When the existing “setup” and “go” buttons are pushed, flocking occurs just as it did in the original program. |



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| | 6 | <p>E:</p> <ul style="list-style-type: none">• Create a “go-1obstacle” button that creates a single obstacle for the birds:<ul style="list-style-type: none">-The obstacle is red.-Birds don’t fly through the obstacle. |
| | 6 | <p>F:</p> <p>Create a “go-MultipleObstacles” button that creates multiple obstacles.</p> <ul style="list-style-type: none">• Birds don’t fly through the obstacles.• Your code creates a bird trap where some birds get stuck for the entire simulation. This is one of the obstacles.• Your code creates a bird funnel where flocks go through a narrow passage. This can be part of the trap above or separate.• The remaining obstacles may be of any shape you like, but do leave enough room for the birds to fly. |