The Flocking model is from the Biology group of NetLogo models.

Only #1 below here is required. Below here is the help on the IN-CONE primitive from NetLogo help.

Due date: Wednesday, April 13th, 2011

What to turn in: Your description of what changes you had to make to the model. Show both the before and the after code for the portion of NetLogo code in the procedure that you had to change. Also send an attachment of the modified NetLogo FLOCKING model.

1. Currently the birds can "see" all around them. What happens if birds can only see in front of them? The IN-CONE primitive can be used for this.

in-cone

agentset* in-cone *distance angle

This reporter lets you give a turtle a "cone of vision" in front of itself. The cone is defined by the two inputs, the vision distance (radius) and the viewing angle. The viewing angle may range from 0 to 360 and is centered around the turtle's current heading. (If the angle is 360, then in-cone is equivalent to in-radius.)

in-cone reports an agentset that includes only those agents from the original agentset that fall in the cone. (This can include the agent itself.)

The distance to a patch is measured from the center of the patch.

```
ask turtles
  [ ask patches in-cone 3 60
      [ set pcolor red ] ]
;; each turtle makes a red "splotch" of patches in a 60 degree
;; cone of radius 3 ahead of itself
```

2. Is there some way to get V-shaped flocks, like migrating geese? (Optional)

3. What happens if you put walls around the edges of the world that the birds can't fly into? (Optional)

4. Can you get the birds to fly around obstacles in the middle of the world? (Optional)

http://www.cs.uni.edu/~jacobson/025/logo/FireModelVariation01.jpg We used IN-CONE in the Forest Fire model.

http://www.cs.uni.edu/~jacobson/logo/applets/SeeingCone.html Try out a demo of IN-CONE that colors the area that can be "seen".

http://www.cs.uni.edu/~jacobson/025/logo/seeingCone.pdf Shows the code and lots of examples with IN-CONE.