8. Critters, 15 points. Write a class called Ferret that extends the Critter class. The instances of the Ferret class always infect when an enemy is in front of them, otherwise hop if possible, and otherwise randomly choose between turning left and turning right (each choice equally likely). Their appearance changes based on whether they recently attempted to infect. They initially display as "I=0" indicating that they have not attempted to infect recently. After an infect move, they should display as "I=5". As the ferret makes other moves that are not infecting, this display should change to "I=4", "I=3", "I=2", "I=1", and "I=0". It should then stay at "I=0". Notice, however, that it can go back to "I=5" in the middle of this process because it might infect again before reaching "I=0". The ferrets should be blue when they are displaying as "I=0" and red otherwise.

   Use a Random object to make random choices but each Ferret should construct only one such object. As in assignment 8, fields must be declared private, fields initialized to a non-default value must be set in a constructor, and all updates to fields must occur in the getMove method.