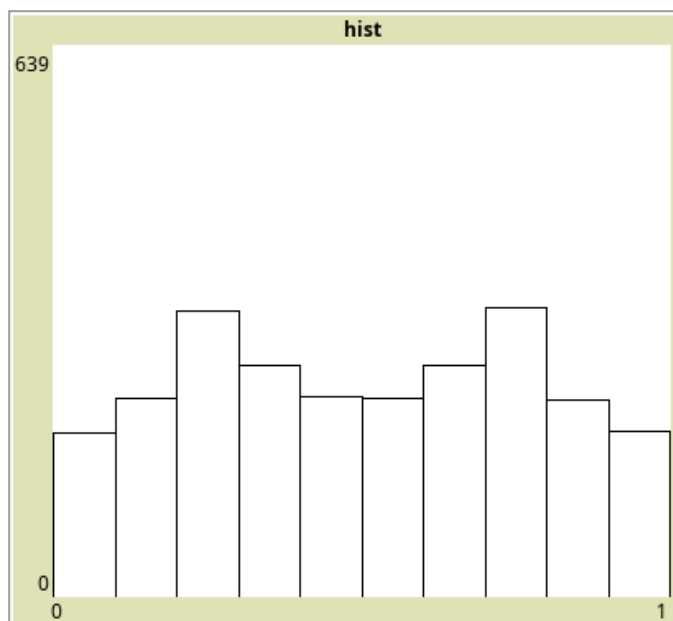
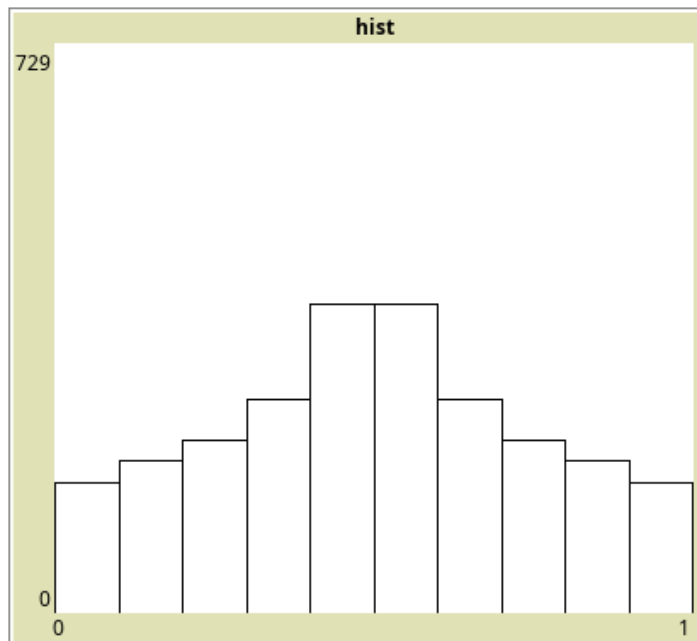


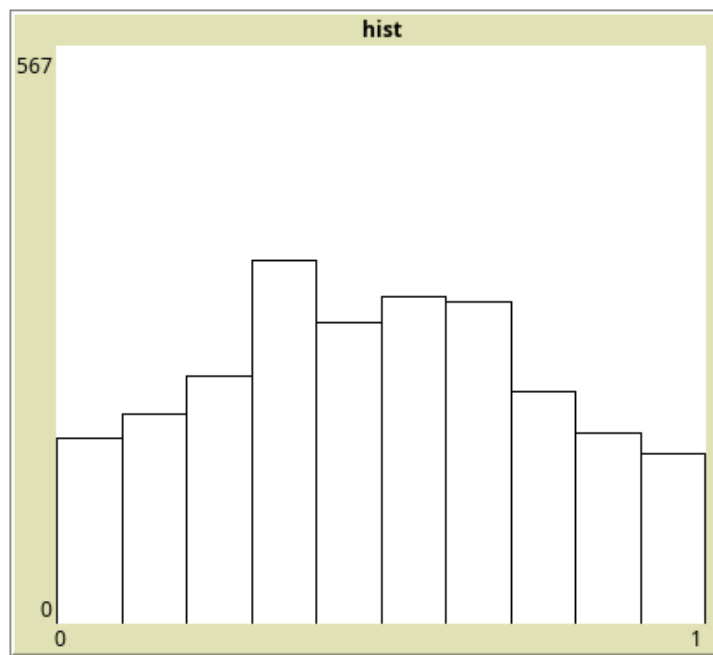
Task1

1. What is stable distribution after a long time? Estimate its type.

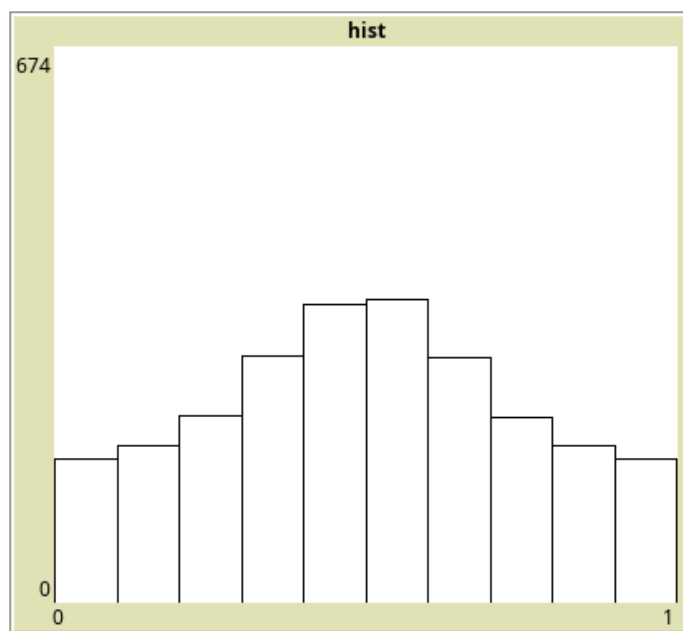


With w in the small range of 0.5 the approximate distribution is bimodal - a mixture of two normal distributions. Otherwise it looks like normal distribution

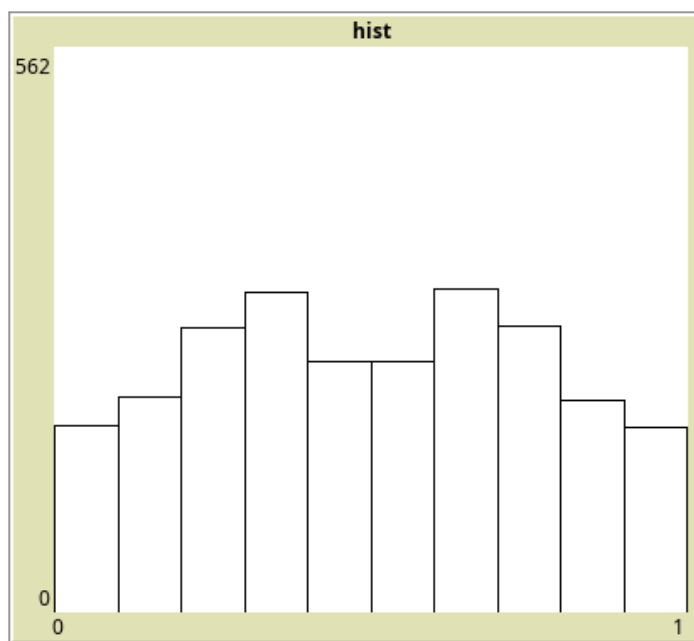
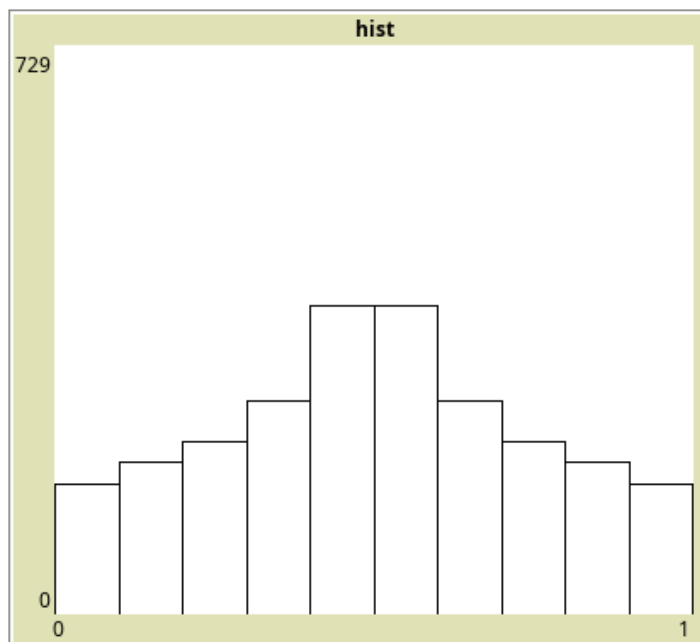
2. What is the influence of parameter w ?

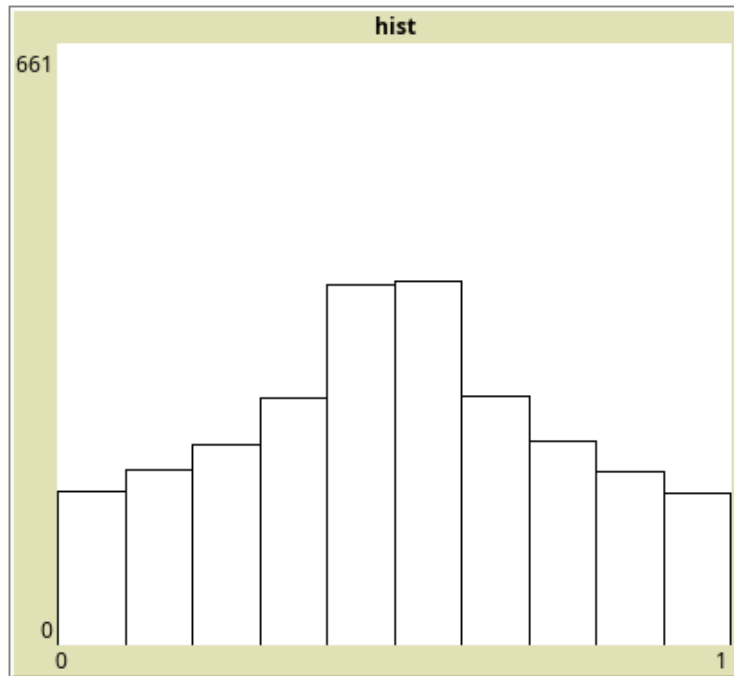


weight-w 0.10

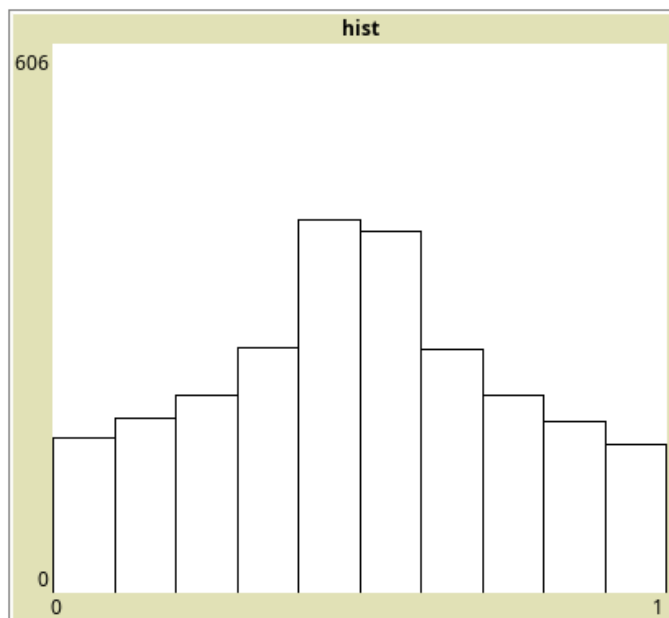


weight-w 0.20





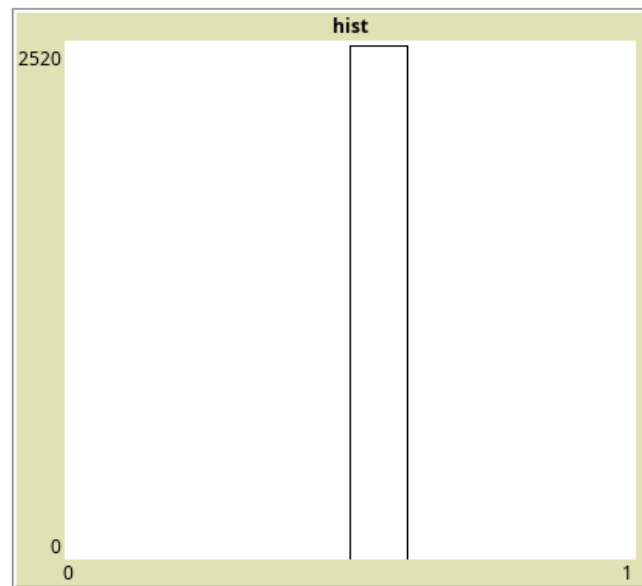
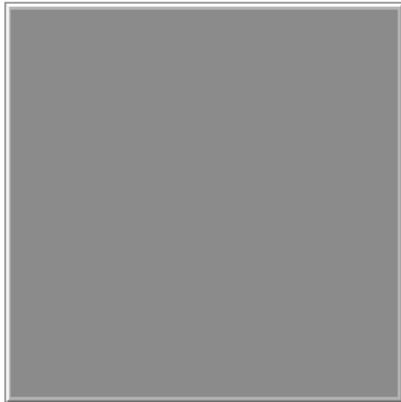
weight-w 0.70



weight-w 0.90

When the weight is approximately 0.5 distribution tends to be double normal (bimodal)

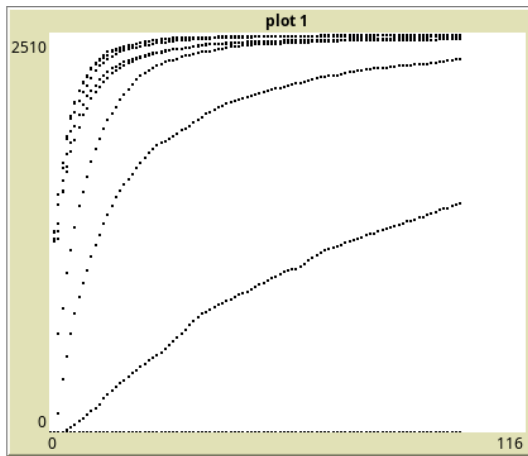
3. If we remove rescaling, how will it affect the model behavior?



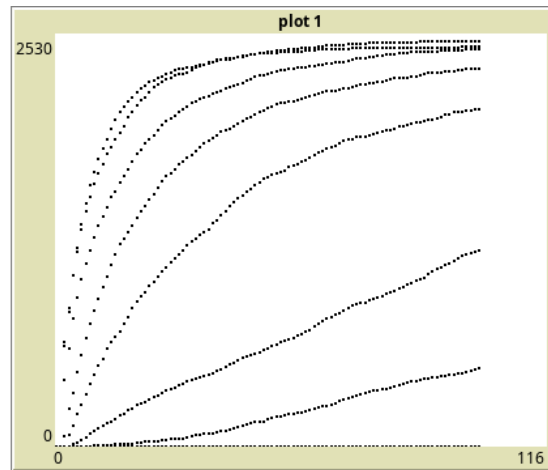
With the rescaling removes all of the patches become the same color after some time

Task 2

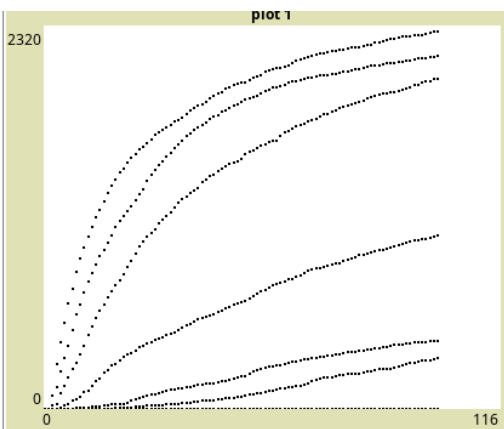
Implement your neighborhood from variant and recreate plots for different threshold levels (0.5 1 1.5 2 2.5 3).



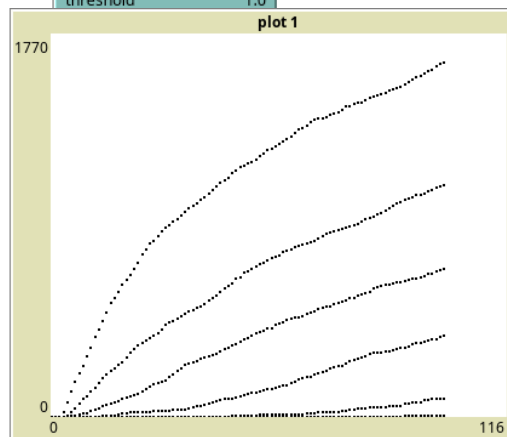
threshold 0.5



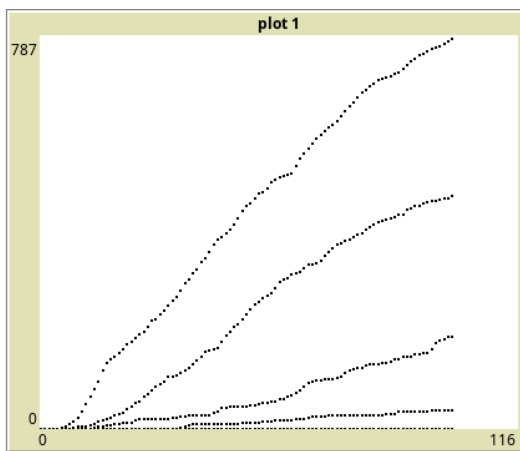
threshold 1.0



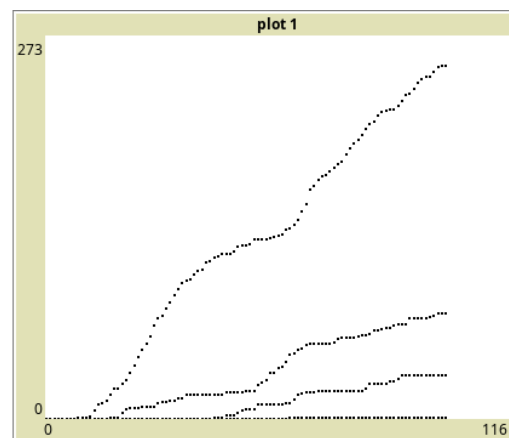
threshold 1.5



threshold 2.0



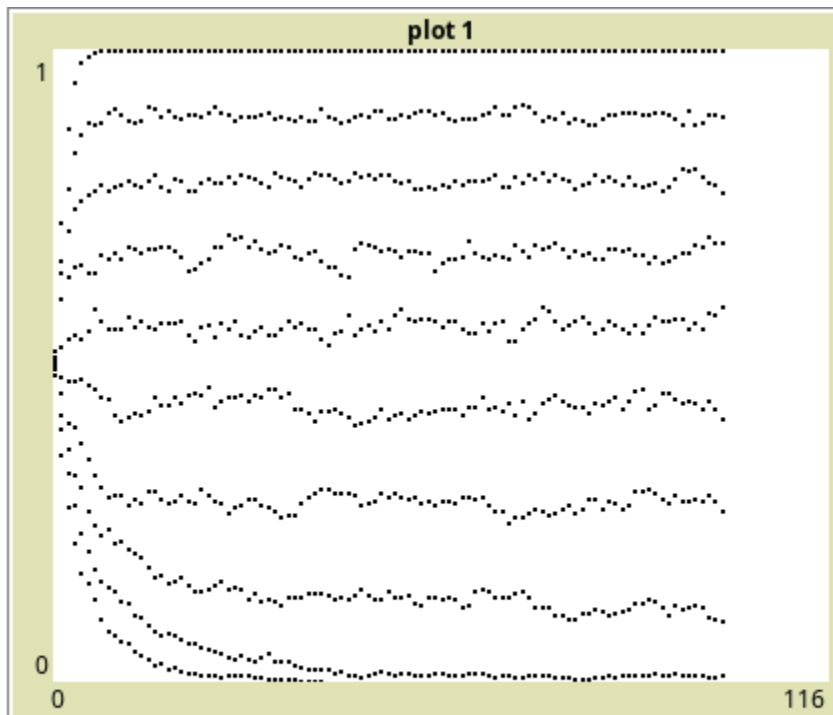
threshold 2.5



threshold 3.0

So, the smaller the threshold the less black patches we have.(Plot has different noise values)
The bigger the noise, more black patches once again.

1. Perform survival analysis for delta depending to you variant of neighborhood. Create plot with justification.



The smaller the delta value the biggest chance of the patch to die, therefore the the population ii decreasing faster