Name
Date
Math 214

**Lab 03**

Beverton-Holt Model Equilibrium Points

|  |  |
| --- | --- |
| $$x^{\*}$$ | **Condition for Stability** |
| $$Type equation here.$$ | $$Type equation here.$$ |
| $$Type equation here.$$ | $$Type equation here.$$ |

*When the value of* $r$ *is sampled from* $U[0.2,3]$ *you will notice htat though some simulations have the population getting close to extinction, in the end (i.e., by year 100) each population is thriving. Why does this happen? Hint: Consider the stability conditions given above.*

*Insert graphs A-C here.*

*When the value of* $r$ *is sampled from* $U[0.2,2]$ *and the simulations are run for a long period of time (e.g. 500 or 1000 time steps), what happens to the population in each simulation? Why does this happen? Hint: Consider the stability conditions given above, and the relative size of the sampled value of* $r$ *at each time step.*

*Insert graph D here.*