Homework for Lecture 18 of Dr. Z.'s Dynamical Models in Biology class

Email the answers (as a .pdf file) to

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by 8:00pm Monday, Nov. 10, 2025.

Subject: hw18

with an attachment hw18FirstLast.pdf

1. In the (continuous) SIRS model with a population of 1000 and parameters $\gamma = 1.2$, $\nu = 1.2$. For each $\beta = 0.01 \cdot i$, for $1 \leq i \leq 20$, how many "removed" people are there?

2. Type

```
a1:=rand(1..100)():  a2:=rand(1..100)():[a1,a2];SEquP(ChemoStat(N,C,a1,a2),[N,C]);
```

20 times. How often did you get a stable equilibrium?

3. Run

```
SIRSdemo(1000,400,1,1,0.01,10);
```

4. After downloading

BOTH DMB.txt and L18.txt from the class web-page run

HWgE(100,1000);

10 times. Are the answers close to each other? Can you estimate the prob. that with a random preferance matrix only one genotype will survive in the long run?