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Project 02

1. What your own-choice quantity was and how it fits into the simulation.
   My choice quantity for the simulation was Foxes. I ran the simulation for the Foxes similar to the way the grass was run for the rabbits, except the foxes are based on the number of rabbits.

2. A table showing values for temperature, precipitation, number of rabbits, height of the rye grass, and your own-choice quantity as a function of month number.

Months	Precipitation	Temperature	Height	Rabbits	Foxes
0	14.373713	46.671879	7.380243	2	1
1	15.882196	37.996284	5.532631	3	2
2	15.575124	57.515121	20.874308	4	3
3	16.552237	75.171745	18.749619	5	4
4	13.832417	70.82843	19.939415	6	5
5	12.009336	80.498825	14.227093	7	6
6	11.139928	76.026817	8.639567	8	7
7	10.312972	69.698936	7.454368	8	8
8	7.171452	62.174759	11.421284	7	8
9	9.572447	64.10923	18.306744	8	7
10	10.460712	38.882748	10.510891	9	8
11	12.814827	35.777878	1.566722	10	9
12	12.492516	49.64724	0	9	10
13	16.543961	55.428612	6.211306	8	9
14	17.513416	62.020638	15.181551	7	8
15	16.045429	72.436691	12.265978	8	7
16	13.065714	83.607269	4.341296	9	8
17	14.610909	70.890587	1.427055	8	9
18	11.361551	79.501221	0	7	8
19	11.361551	79.501221	0	7	8
20	10.785054	66.855553	4.27274	6	7
21	8.653031	66.565186	8.037841	5	6
22	8.656302	57.198631	16.93528	6	5
23	9.657107	55.524395	24.491083	7	6
24	11.957447	36.0378	17.552635	8	7
25	14.898901	45.640858	12.076527	9	8

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26	15.882744	53.855045	16.309086	10	9
27	15.782405	56.041805	22.874046	11	10
28	15.646986	68.748093	20.929031	12	11
29	14.364938	83.079117	9.026127	13	12
30	14.950359	73.835983	0	12	13
31	9.973686	78.92569	0	11	12
32	8.489239	65.642136	0	10	11
33	7.84365	67.090843	0	9	10
34	7.475749	64.24369	1.913325	8	9
35	8.786892	45.877697	0	7	8
36	9.006165	40.937794	0	6	7
37	13.778313	44.206211	0	5	6
38	15.130207	48.659599	0.457067	4	5
39	16.276581	54.187855	10.0031	3	4
40	16.638893	64.392387	22.384579	4	3
41	15.260571	69.819344	25.890158	5	4
42	12.803058	87.917145	20.898287	6	5
43	11.088314	86.737442	14.912724	7	6
44	9.120728	81.373688	8.076265	8	7
45	7.381286	59.058746	12.867996	8	8
46	10.088877	60.714825	21.943649	9	8
47	9.945874	44.024975	14.26593	10	9
48	11.825985	34.589775	4.295877	11	10
49	12.615231	39.111214	0	10	11
50	16.381804	45.998646	0	9	10
51	14.814602	55.866619	7.747486	8	9
52	14.794988	66.007599	13.600458	7	8
53	15.844097	79.805542	6.983018	8	7
54	14.052553	83.695869	0	7	8
55	12.001562	71.438095	0	6	7
56	10.114861	77.002228	0	5	6
57	7.69953	64.414703	6.065996	4	5
58	7.918058	55.367088	13.213253	5	4
59	7.650595	51.310432	14.494051	6	5
60	9.260581	49.959671	14.324123	7	6

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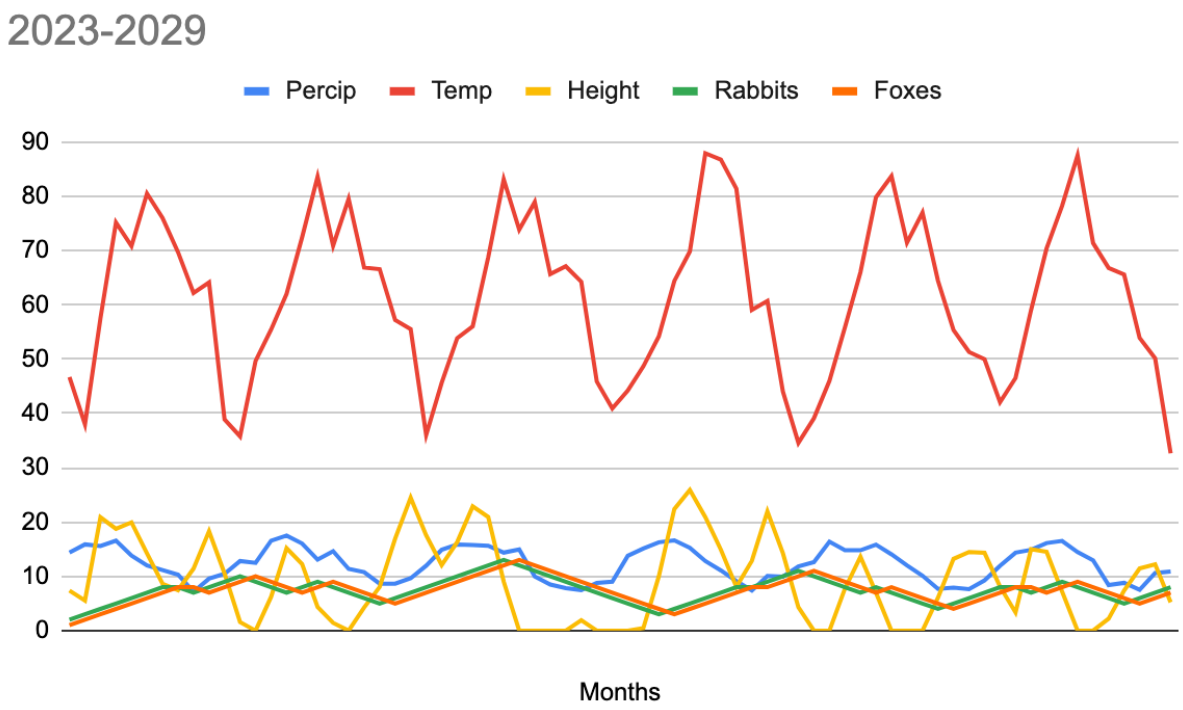
61	11.947808	42.057693	8.090834	8	7
62	14.353369	46.530193	3.34562	8	8
63	14.888054	59.033211	15.00391	7	8
64	16.125811	70.371216	14.52421	8	7
65	16.507013	78.205315	7.207078	9	8
66	14.453017	87.501389	0	8	9
67	12.938616	71.371742	0	7	8
68	8.399793	66.797195	2.208162	6	7
69	8.797856	65.570114	7.396227	5	6
70	7.510447	53.910721	11.455566	6	5
71	10.606647	50.147583	12.207863	7	6
72	10.908404	32.645527	5.218092	8	7

3. A graph showing temperature, precipitation, number of rabbits, height of the rye grass, and your own-choice quantity as a function of month number. Note: if you change the units to °C and centimeters, the quantities might fit better on the same set of axes.
   cm = inches * 2.54
   °C = (5./9.)*(°F-32)
   This will make your heights have larger numbers and your temperatures have smaller numbers.



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4. A commentary about the patterns in the graph and why they turned out that way. What evidence in the curves proves that your own quantity is actually affecting the simulation correctly?

   Prescription stayed at or above 7 and did not go over 20 the entirety of the time span. When the prescription was higher so was the height of the grass.

   The fox and rabbits had a very close relationship and followed similar patterns. This makes sense because the fox is dependent on the rabbit.

   The height of the grass was the most inconsistent over the months and looks very spiky on the graph. There were a few periods when there was no grass at all and the animals started to tank. When the grass was higher the animals would start to rise again.

   Temperature always stayed above 30 and below 90. The graph resembles a heart monitor. The temperatures are randomized with a seed. When the temperatures are lower so is the height of the grass.