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CS 475
Professor Bailey
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Assignment 3

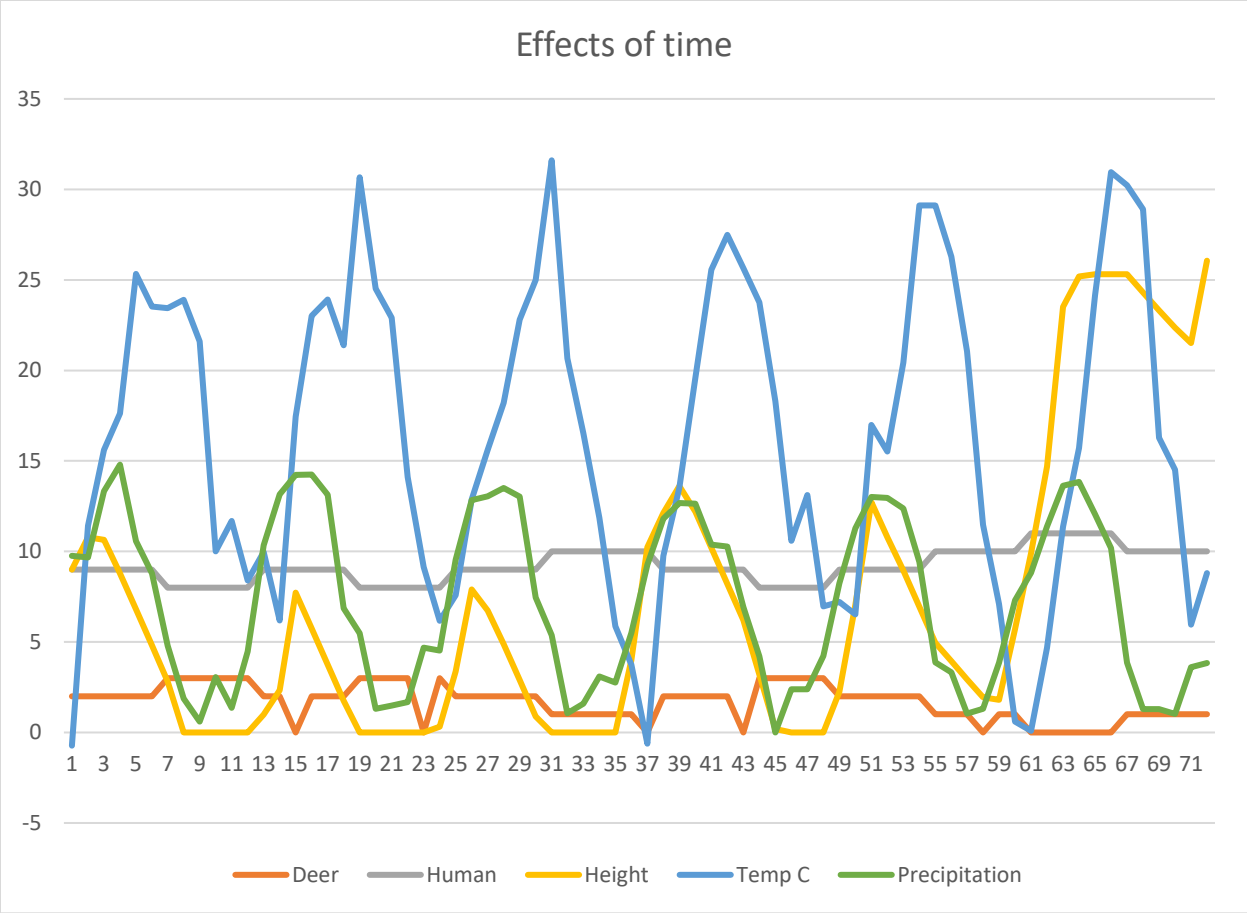
1. What you own-choice quantity was and how it fits into the simulation
   So my choice quantity was a Humans versus a Zombie virus, there is a 40% chance that a human will get infected. The reason I chose a 'Zombie' virus because it seemed fun, since the humans eat deer, there need to be some kind of predator, so I chose Zombie virus. It's not possible for the virus to pass on from human to human, once getting the virus the human will wander around for a month before dying. This disease is a viral disease that no one knows much about, maybe in the future the scientist will create a vaccine. The humans increase by 1 every month, they eat .75 deer each.

2. A table showing values for temperature, precipitation, number of deer, height of grain, and your own-choice quantity as a function of month number.

Month	Deer	Human	Height	Temp C	Precipitation
1	2	9	9	-0.72727	9.750994
2	2	9	10.781096	11.41669	9.670324
3	2	9	10.642074	15.606927	13.333856
4	2	9	8.784206	17.629713	14.794628
5	2	9	6.809799	25.324884	10.579899
6	2	9	4.809806	23.521368	8.788975
7	3	8	2.809873	23.438232	4.788744
8	3	8	0	23.898977	1.868719
9	3	8	0	21.601871	0.604122
10	3	8	0	9.999665	3.061567
11	3	8	0	11.688125	1.362335
12	3	8	0	8.403986	4.466366
13	2	9	0.987034	9.962219	10.346066
14	2	9	2.339116	6.191145	13.15679
15	0	9	7.71872	17.44516	14.234959
16	2	9	5.750203	23.013857	14.247616
17	2	9	3.750309	23.917091	13.135667
18	2	9	1.750346	21.39164	6.867329
19	3	8	0	30.664822	5.483625
20	3	8	0	24.514597	1.300043
21	3	8	0	22.913212	1.482207
22	3	8	0	14.115164	1.679448
23	0	8	0	9.143278	4.690664
24	3	8	0.320028	6.171752	4.518351
25	2	9	3.370108	7.580609	9.544789
26	2	9	7.900594	12.875548	12.842076
27	2	9	6.730324	15.608448	13.039192
28	2	9	4.874991	18.205494	13.509896
29	2	9	2.892216	22.810305	13.030036

30	2	9	0.892363	25.000593	7.456408
31	1	10	0	31.607742	5.36852
32	1	10	0	20.659416	1.057359
33	1	10	0	16.535948	1.587338
34	1	10	0	11.866883	3.088459
35	1	10	0	5.863961	2.761325
36	1	10	3.992583	3.754487	5.49835
37	0	10	10.229189	-0.617398	9.25786
38	2	9	12.131449	9.762802	11.802988
39	2	9	13.615812	13.518066	12.668402
40	2	9	12.197693	19.578209	12.638755
41	2	9	10.20272	25.565605	10.378082
42	2	9	8.202724	27.488466	10.27264
43	0	9	6.202724	25.643013	6.93087
44	3	8	3.202728	23.755604	4.20367
45	3	8	0.202765	18.290083	0
46	3	8	0	10.582539	2.382686
47	3	8	0	13.12265	2.39078
48	3	8	0	6.973881	4.228745
49	2	9	2.242791	7.215436	8.23886
50	2	9	7.04623	6.532019	11.270797
51	2	9	12.735895	16.994722	13.004155
52	2	9	10.785865	15.517152	12.961799
53	2	9	8.941088	20.443642	12.375322
54	2	9	6.943215	29.109375	9.428385
55	1	10	4.943215	29.113832	3.871001
56	1	10	3.943215	26.292406	3.329378
57	1	10	2.943217	21.051563	1.05211
58	0	10	1.943748	11.466548	1.313138
59	1	10	1.800135	7.092599	3.847871
60	1	10	5.71137	0.598106	7.302725
61	0	11	9.893085	0.089315	8.828156
62	0	11	14.694719	4.678069	11.377106
63	0	11	23.510048	11.360181	13.637474
64	0	11	25.184196	15.721188	13.834522
65	0	11	25.310389	24.140375	12.055277
66	0	11	25.310419	30.950809	10.189489
67	1	10	25.310419	30.226236	3.85773
68	1	10	24.310419	28.895332	1.288372
69	1	10	23.310419	16.287487	1.283193
70	1	10	22.355156	14.517456	1.021865
71	1	10	21.505274	5.960344	3.615302
72	1	10	26.062656	8.809361	3.839896

3. A graph showing temperature, precipitation, number of deer, height of the grain and your own-choice quantity as a function of month number.



4. A commentary about the patterns in the graph and why they turned out this way. What evidence in the curves proves that your own quantity is actually affecting the simulation correctly?
   So, looking at the graph I notice that every time the human population increases the deer population will decrease. Since humans eat deer the more humans there are the deer population will decrease.

   As the deer population increases the height of the hay decreases, and as the deer population decreases the height of the hay increases. Deer eat hay and the more deer there are the more hay is eaten, decreasing the height of hay; if there are less deer the deer eat less hay so the height of hay increases.

   It seems that the precipitation also affects the height of the hay and the precipitation is slightly affected by the temperature, if the temp increases the precipitation increases, but when temperature starts to decrease the precipitation sometimes decreases as well. The temperature the warmer the temperature is the better it is for the hay to grow in height.