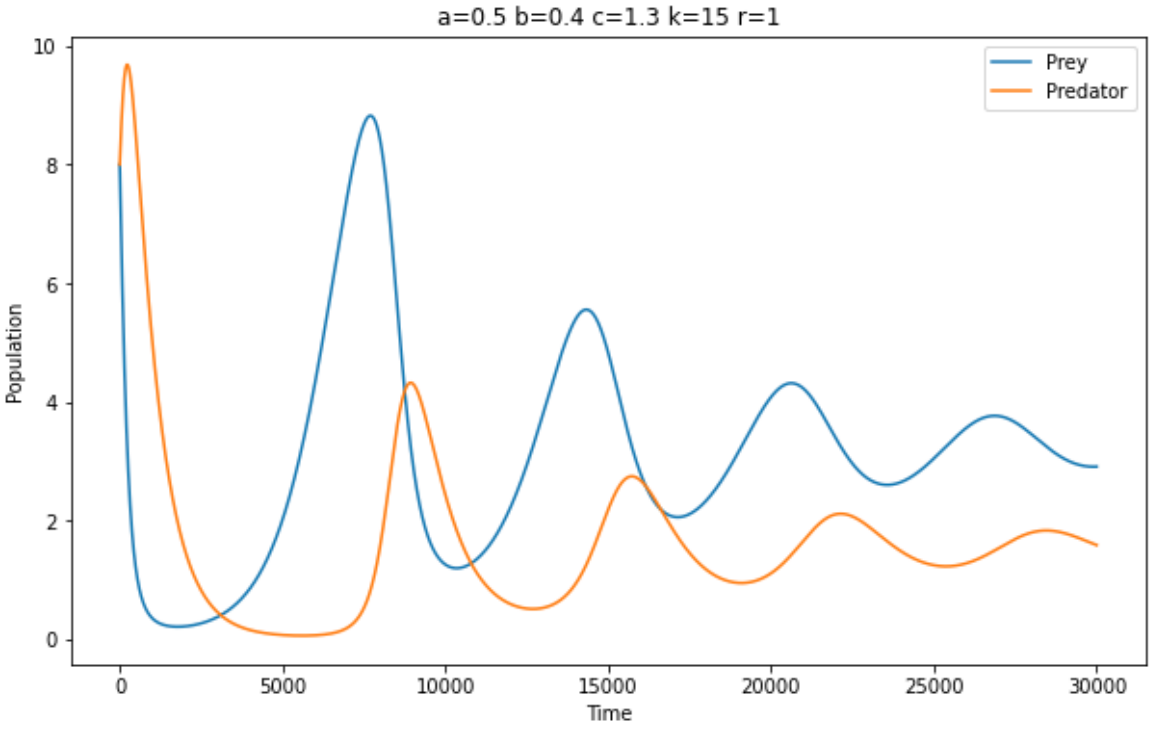
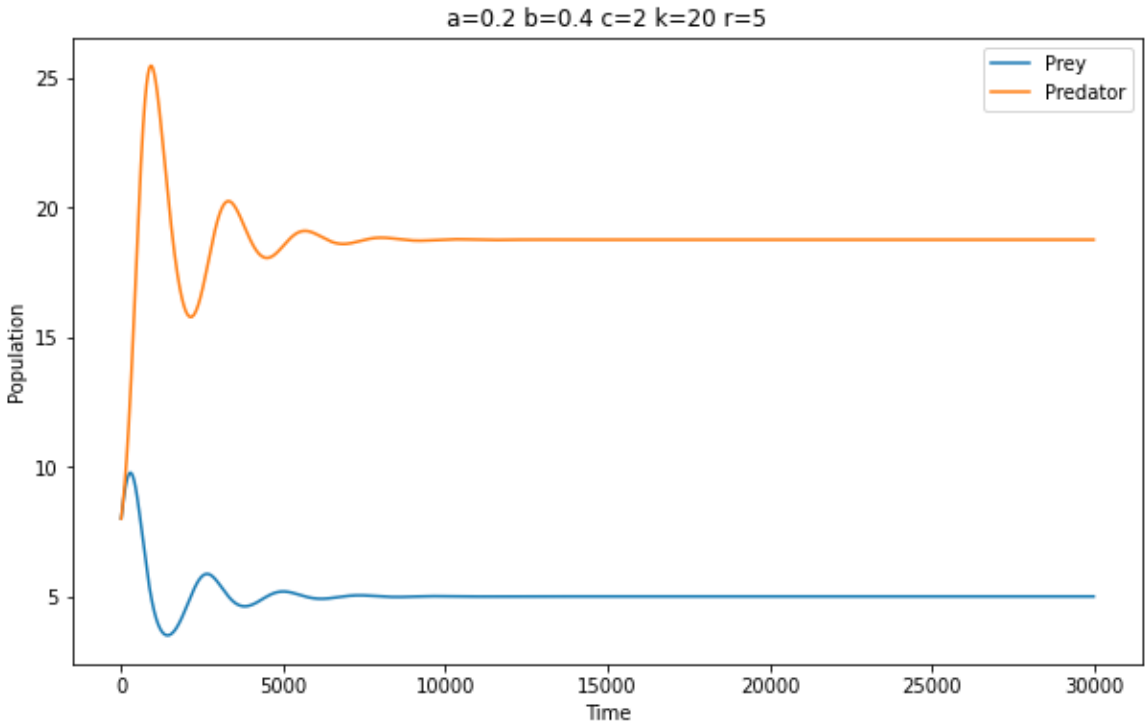
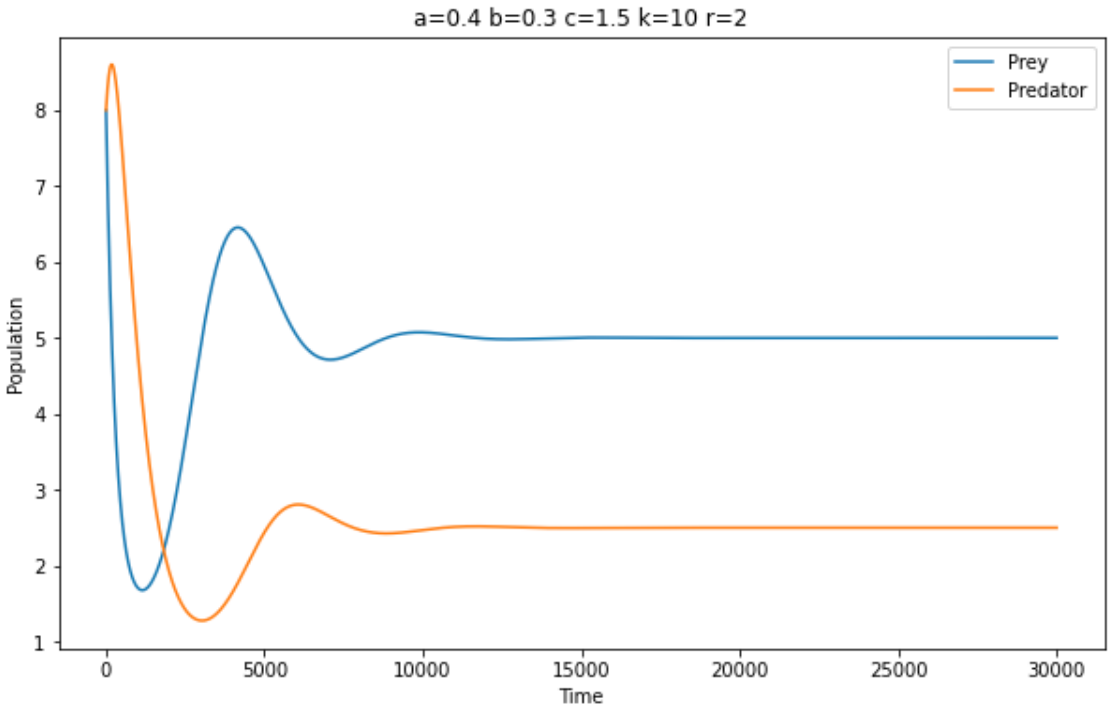
Prey Predator Model







Observations

1. The above plots depict population graphs for different values of alpha, beta , c , k and r.
2. We observe that the predator population first increases due to high population of prey but then has a steep decline as the prey population decreases significantly.
3. After that, both the populations steadily grow and become stable after some time at which equilibrium is achieved.
4. Also,if the growth rate of the predator is higher than the death rate of the predator, the final stable predator population is greater in number than the prey population.
5. If prey population is zero, the predator population decreases exponentially.