1. Find the number of poles in the left half-plane, the right half plane, and on the jω axis for the given system using the Routh-Hurwitz table. (10 points)

2. Assume K to be positive, using Routh-Hurwitz table, find the range of K, for the given system that will cause the system to be stable, unstable, and marginally stable. (10 points)

3. For the given system, find the gain K so that there is 10% error in the steady state. (10 points)

4. Find the sensitivity of the steady-state error to changes in gain K for the given system. (10 points)