Q1

The following answers are for a Poisson train of 1000 seconds and 35Hz firing rate with a refractory period of 0ms and 5ms respectively. The Fano factor is then calculated for each window width being 10ms, 50ms and 100ms. The Coefficient of Variation is also calculated.

Refractory period: 0ms

Window width: 10ms
Fano factor: 1.0036   Coefficient of variation: 0.9967

Window width: 50ms
Fano factor: 1.0006   Coefficient of variation: 0.9967

Window width: 100ms
Fano factor: 0.9898   Coefficient of variation: 0.9967

Refractory period: 5ms

Window width: 10ms
Fano factor: 0.7507   Coefficient of variation: 0.8282

Window width: 50ms
Fano factor: 0.6913   Coefficient of variation: 0.8282

Window width: 50ms
Fano factor: 0.6773   Coefficient of variation: 0.8282

Q2

The following answers are calculated from data from rho.dat. The Fano factor and the Coefficient of Variation is calculated for window width 10ms, 50ms, and 100ms respectively.
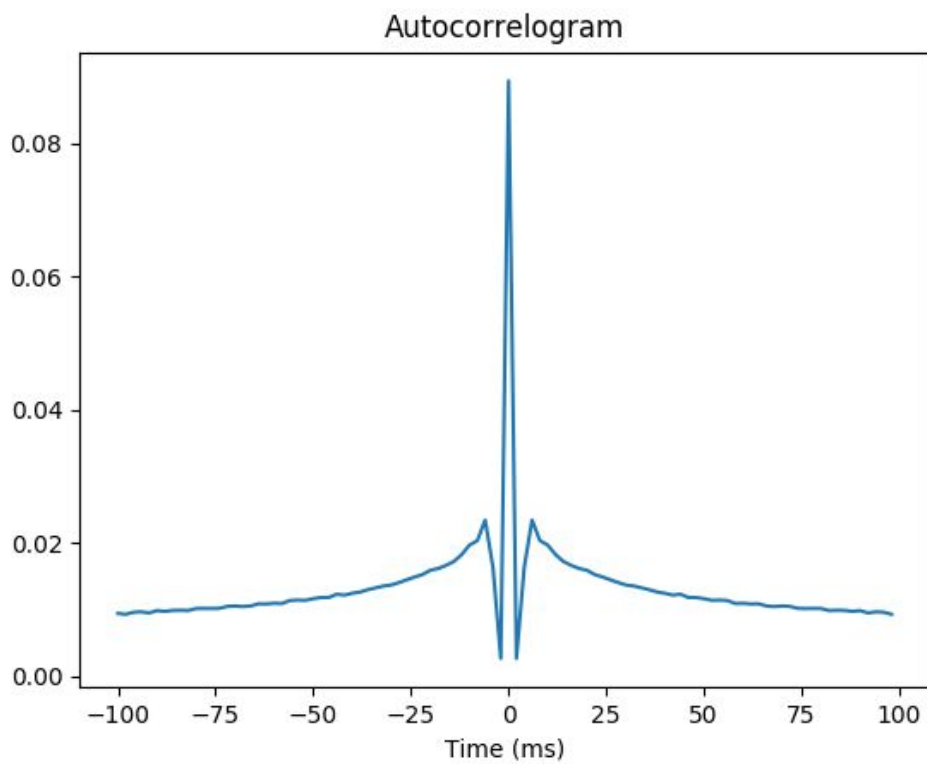
Window width: 10ms
Fano factor: 1.1176   Coefficient of variation: 2.0085

Window width: 50ms
Fano factor: 2.9297   Coefficient of variation: 2.0085

Window width: 100ms
Fano factor: 4.1029   Coefficient of variation: 2.0085

Q3

Q4