

Due: Oct. 10

1. Using **Maple**, generate a set of 50 pairs of values from the bivariate normal distribution with $\mu_x = 10$, $\sigma_x = 3$, $\mu_y = 12$, $\sigma_y = 4$ and $\rho_{xy} = 0.7$. Based on these data, find an approximate 95% confidence interval for ρ_{xy} (pretending not to know its exact value).
2. Using the data of the previous question, fit two regression lines, first using x as the independent variable and y as the dependent variable, then vice versa. Also, find the straight line which minimizes the sum of squares of *orthogonal* distances. Plot the data with the three straight lines in the same graph.