Seminar 7

Team work:

Exercise 1:
To manage a server efficiently, administrators need to know roughly how many users are connected at the same time. Records show that at 100 randomly chosen moments, the average number of concurrent users was 37.7, with a standard deviation of about 9.2.

Based on these observations, answer the following two questions:

1. Within what range can we say, with 90% confidence, that the true average number of concurrent users lies?

2. If we require the evidence to be strong enough that there is only a 1% risk of a false alarm, can we conclude that the actual mean number of concurrent users exceeds 35?

Exercise 2: Installation of a certain hardware takes random time with a standard deviation of 5 minutes.

a A computer technician installs this hardware on 64 different computers, with the average installation time of 42 minutes. Compute a 95% confidence interval for the population mean installation time.

b Suppose that the population mean installation time is 40 minutes. A technician installs the hardware on your PC. What is the probability that the installation time will be within the interval computed in (a)?