Module: Data Visualisation

Problem Set 4

Topics Covered: *Confidence intervals*

Exercise 1. A survey of the amount spent on computer by a random sample of 36 customers at a retailer found an average expenditure of €775 with a standard deviation of €155. Using this data find the 95% and 99% confidence interval for the amount spent by all customers.

Exercise 2. A corporation wishes to estimate the average monthly earnings of it's employees. A sample of 125 employees was chosen and the average monthly salary was found to be €3450 with a standard deviation of €215. Using this, estimate the 90%, 95% and 99% confidence intervals for the mean wage of all employees of the corporation.

Exercise 3. A company wishes to determine the the cost associated with providing health insurance for all of its employees. The company asked a sample of 35 employees how much they currently pay annually for health insurance. The data obtained revealed a sample mean premium of €635 with a standard deviation of €67. Using this, determine the 90% and 99% confidence intervals for the mean premium paid by all employees at the company.

Exercise 4. The mean number of email received daily by employees at a company was measured on a sample of 58 employees. This mean was found to be 21 emails per day with a standard deviation of 4. Using this, calculate the 90%, 95%, 98% and 99% confidence intervals for the mean number of email received daily, by all employees of the company.