Computer Laboratory Session 1

Aims
1. Familiarisation with Excel
2. Perform a Break-even Analysis

Objectives
1. To find production targets for a jeans-company
2. To maximise profit

Challenge 1 – Production targets for jeans-company

The jeans company Lenni has "hired" you to advise them about their production targets.

You have looked up staff's salaries; cost for premises and other fixed costs which added up to approximately £10,000 per month. You have also looked at the actual production of the jeans. You checked the material costs, time spent on producing a pair of jeans, etc. and came to the conclusion that producing one item (unit, pair of jeans) costs approximately £8. A pair of jeans is currently sold for £23. The sales department informed you that they are selling 600 pairs of jeans per month.

Basic tasks
1. Display essential information in a table (Excel)
2. Determine the break-even point (Excel)
3. Visualise the cost relationships (Excel)
4. Communicate your findings to "Lenni's" management (Power Point)

Intermediate tasks
1. Determine the break-even point
2. Allow for uncertainty in your cost estimations (±10%)
3. Consider – what will happen if the price per jeans is increased by (10%, 20%, … , 100%)
4. Communicate findings to management

Advanced task
1. Use cell-fixations to compute variations in costs and prices efficiently

Challenge 2 – Profit maximisation

A manufacturer produces motor-cycle parts. The management asked you to suggest to them the number of parts they have to produce to maximise their profit.

Your investigation showed that the total cost for one part (unit) is $5. These parts are sold for £20 to wholesalers. The production of one motor-cycle part requires 4lbs of steel. There are 100lbs of steel available per day.

Basic tasks

1. Formulate detailed tasks for yourself!
2. Display information
3. Determine volume
4. Determine profit

Advanced task

1. Use the solver Add-In to determine the optimal solution