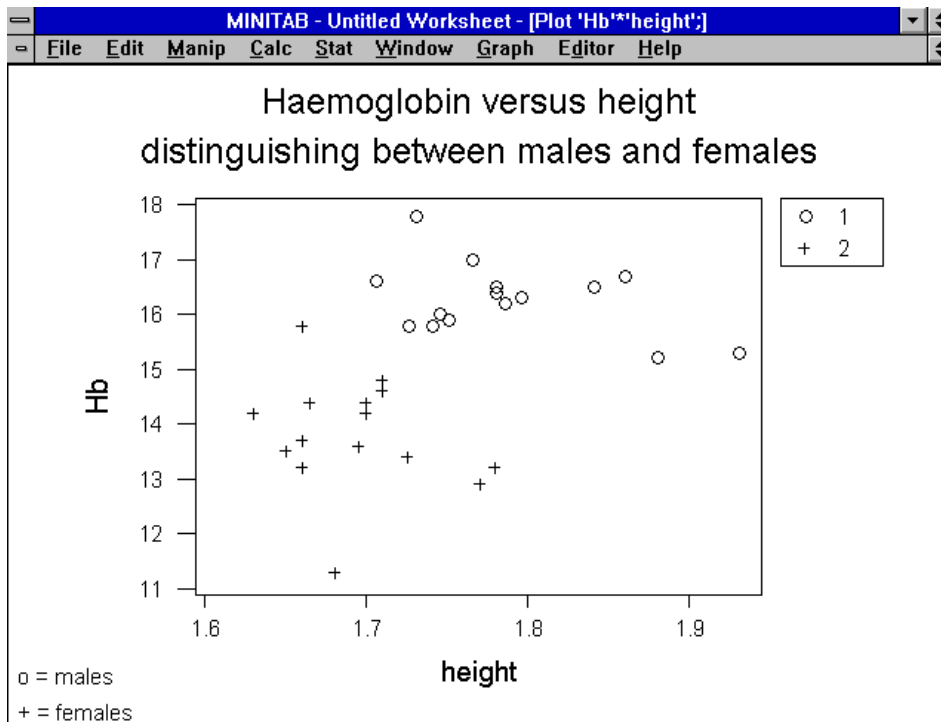


Premedical course

Solution to MINITAB practical 4

Question 1. The techniques necessary to produce this graph have already been covered. Notice that if the sexes had not been given separate symbols one might be led to conclude that there was a positive correlation between height and haemoglobin, ie that taller individuals have higher haemoglobins. It is clear that this is not true of either sex, and therefore such a conclusion would be misleading.



Question 2. It might be possible to explain the apparent protective effect of asthma on the basis of smoking habits. Suppose that, because of their condition, fewer asthmatics smoke than members of the general population. The tables for smokers and non-smokers might look something like this:

	Smokers			Non-smokers		
	Asthmatics	Non-asthmatics	Total	Asthmatics	Non-asthmatics	Total
Cancer patients	3	80	83	4	13	17
Controls	1	27	28	18	54	72
Total	4	107	111	22	67	89

Neither of these hypothetical sub-tables gives evidence of any relationship between cancer and asthma. Only the pooled data suggest it. The small number of asthmatics prevents us from saying much about a relationship between smoking and lung cancer in that group of people, but the relationship for non-asthmatics is clear.