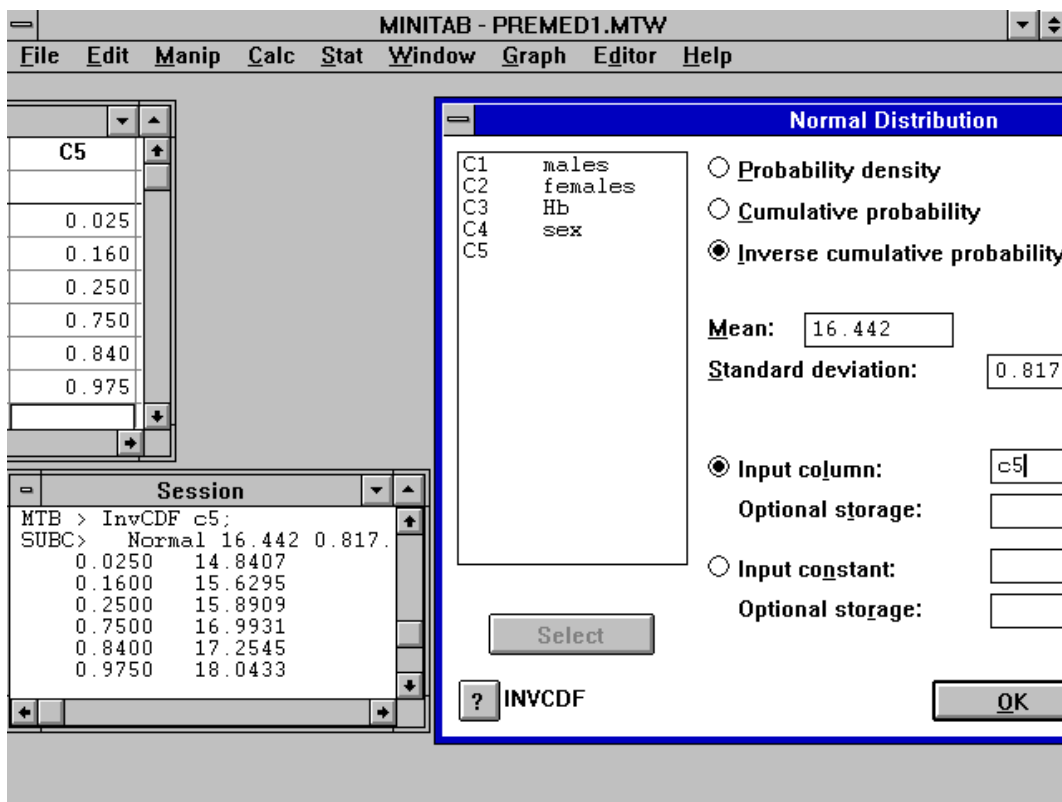


## Premedical course Solution to MINITAB practical 2

*Question 1.* These summary statistics should already have been obtained as part of the output for question 1 of practical 1. We shall record them here, and because we are going to carry out further calculations on them we shall keep more decimal places than if we were summarising the data in a final report:

	$\bar{x}$	s
Males	16.442	0.817
Females	13.986	0.873

*Question 2.* We should therefore expect 68% of males to lie between  $16.442 \pm 0.817$  or 15.6 to 17.3. Similar calculations for females and for 95% are simple. However we may obtain these figures directly from MINITAB using the **Calc** menu, leading to **Probability Distributions** and then **Normal...** . We first create a column holding the appropriate probabilities and then calculate the **Inverse cumulative probability** for this column with the appropriate mean and standard deviation, as shown.



The required statistics, and the quartiles obtained directly from the data without assuming normality are shown below. The two methods give comparable results.

		Assuming normality			Direct
	95%	68%	50%	50%	
Males	14.8 - 18.0	15.6 - 17.3	15.9 - 17.0	15.9 - 16.9	
Females	12.3 - 15.7	13.1 - 14.9	13.4 - 14.6	13.6 - 14.5	