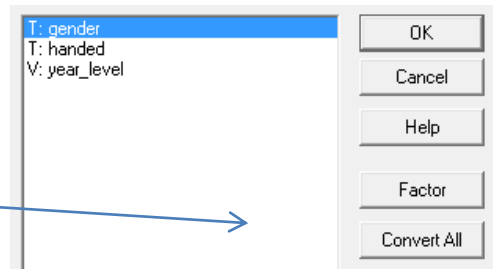


Using Genstat For AS 2.9

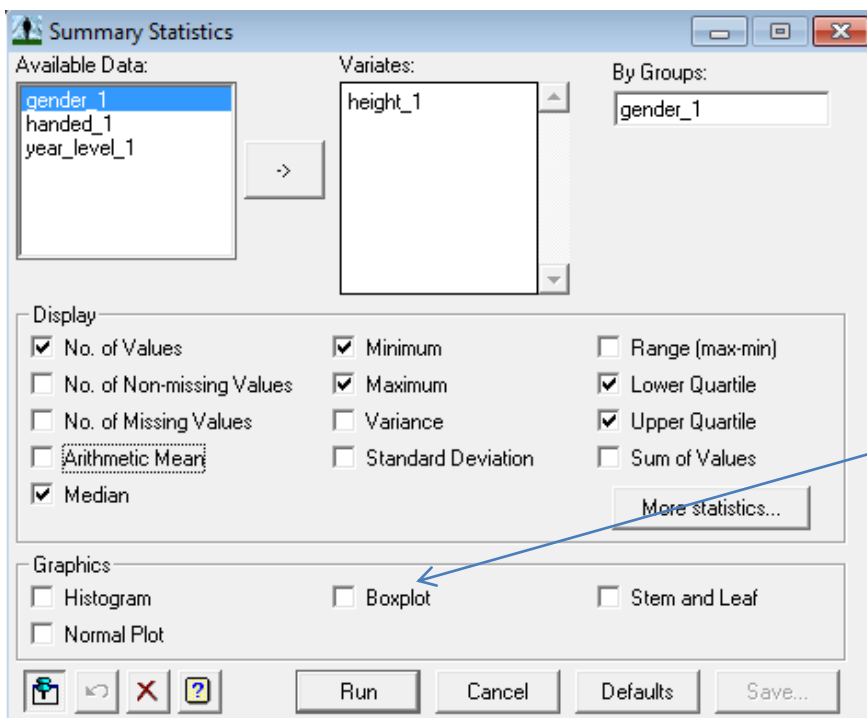
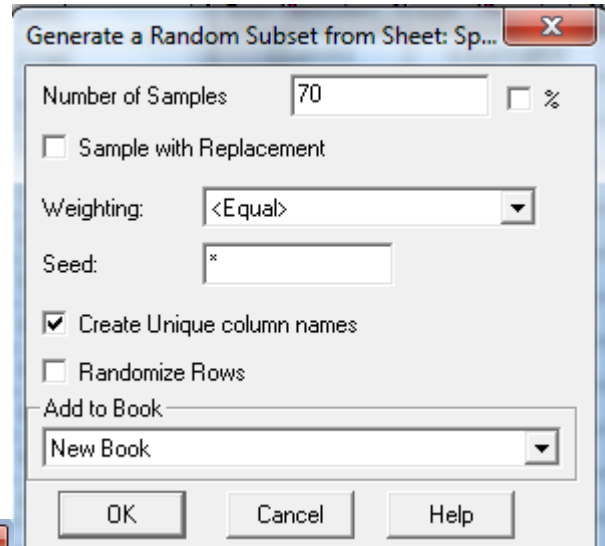
Remember: when you load the data, **convert all** the treatments to **Factors** when asked!

Click on Convert All



Taking a random sample

1. Choose **Calculate** from the **Spread** menu
2. Choose **Random Subset**
3. Enter in the number of samples you want and create a new book. All your variables will now have 1 added to them eg. height_1
4. To get the summary statistics
 - a. Choose **Stats**→ **Summary** →**Statistics**
 - b. Fill in the dialog box with your chosen variable, your group and tick the statistics you require
 - c. Click **Run**



If you click Boxplot, it gives you one which shows outliers.

- d. Look under **Output** (In the **Window** menu) for the results

Summary statistics for height_1: gender_1 boy

Number of values = 30
Median = 171.5
Minimum = 153
Maximum = 186
Range = 33
Lower quartile = 166
Upper quartile = 175

Summary statistics for height_1: gender_1 girl

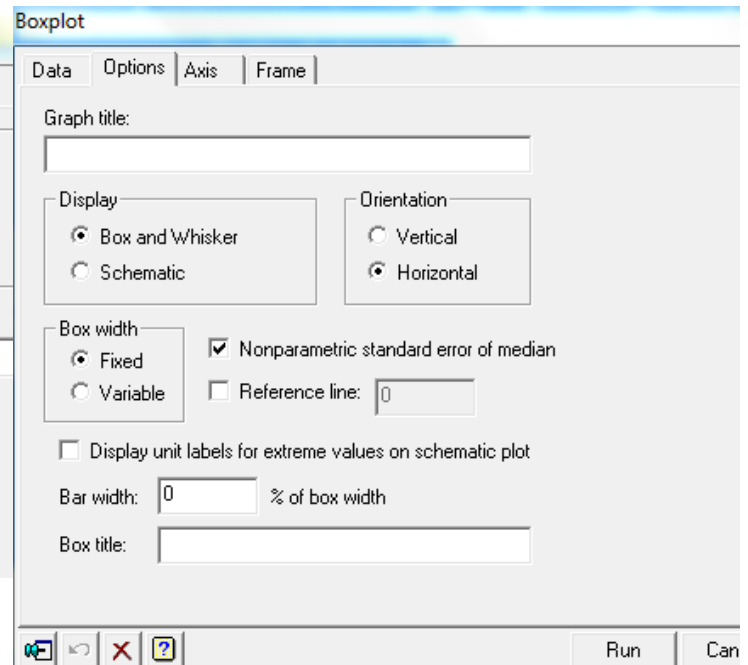
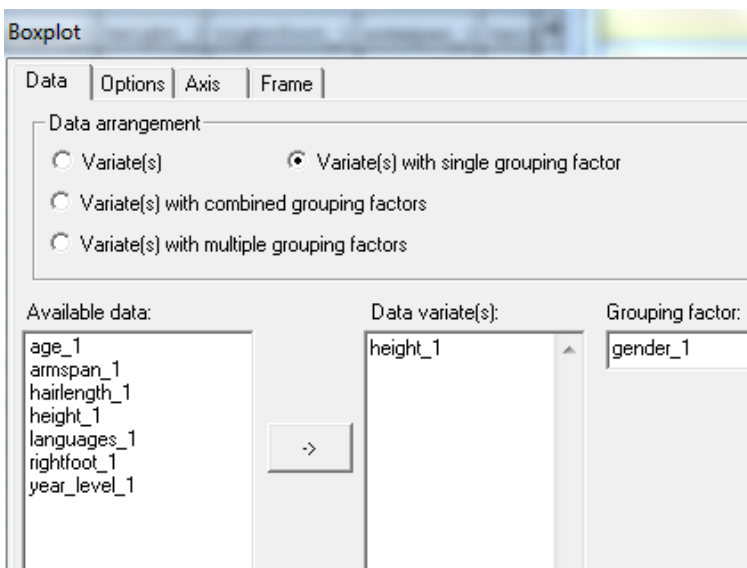
Number of values = 40
 Median = 165
 Minimum = 143
 Maximum = 214
 Range = 71
 Lower quartile = 157.5
 Upper quartile = 172.5

Graphing the Sample and the Interval

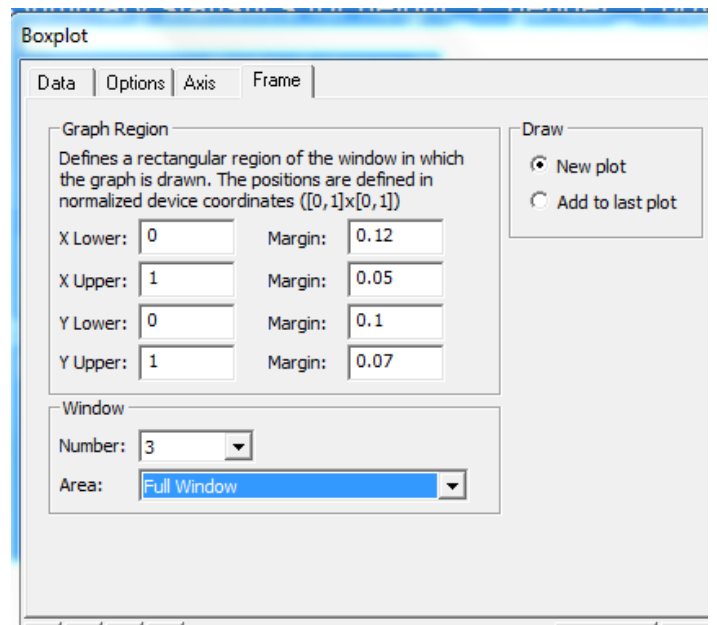
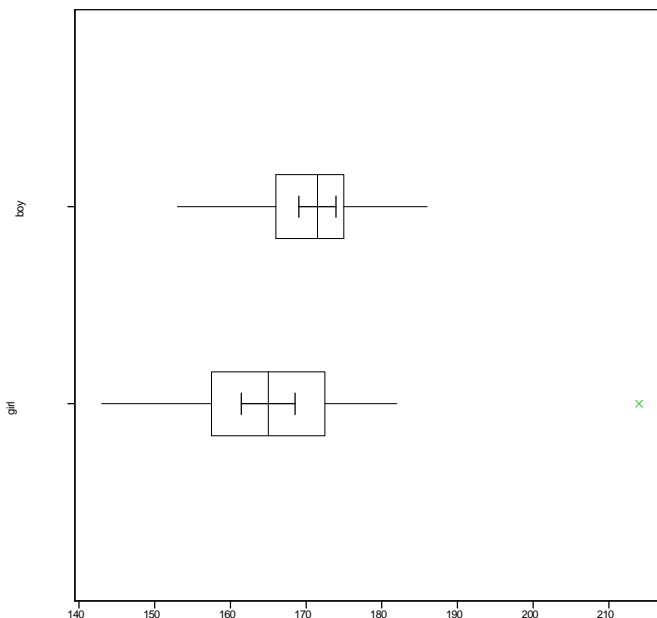
- Work out your informal inference interval

$$171.5 \pm 1.5 \times \frac{175-166}{\sqrt{30}} = 169.04, 173.96 \text{ for boys } \quad 165 \pm 1.5 \times \frac{172.5-157.5}{\sqrt{40}} = 161.44, 168.56 \text{ for girls}$$

- Graph your sample as a boxplot - Use **Options** tab to choose Box and Whisker and Horizontal.

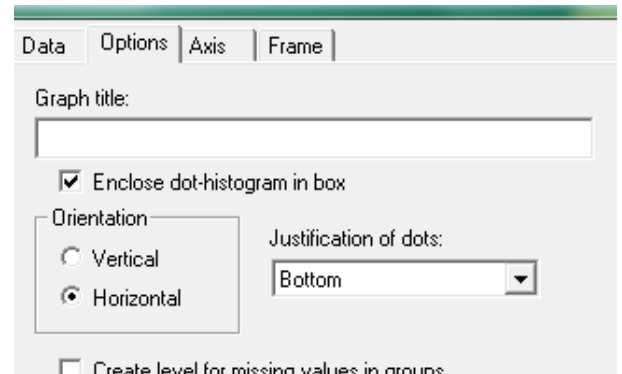
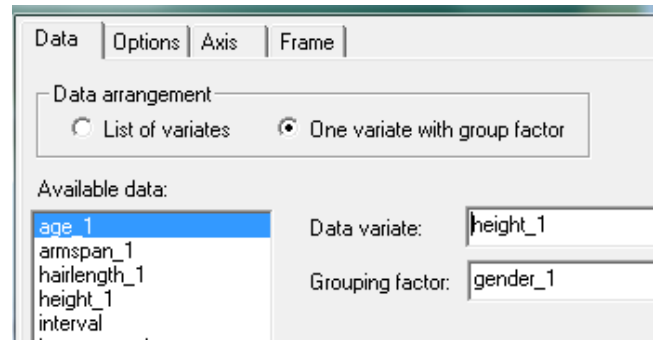
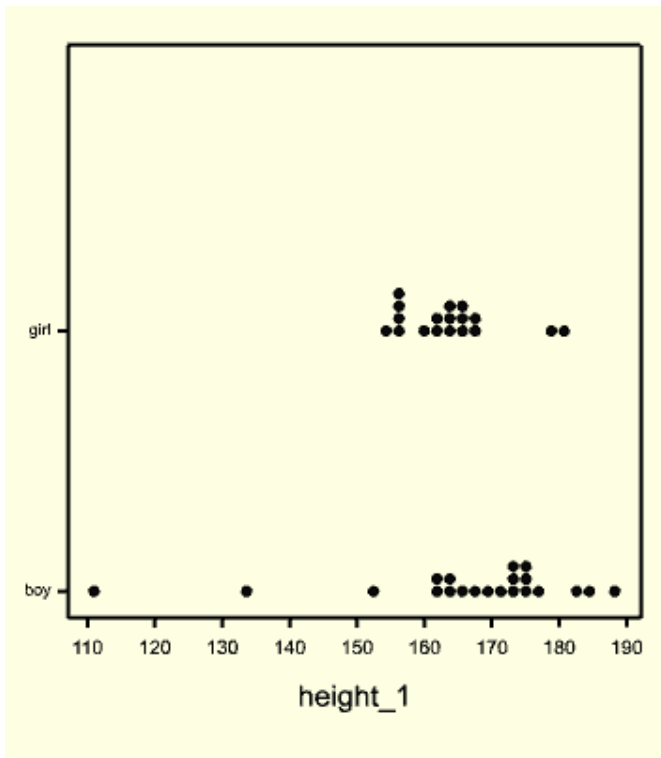


- Make sure you click **Nonparametric standard error of median** to get the informal interval
- Use the **Frame** tab to choose Full Window)



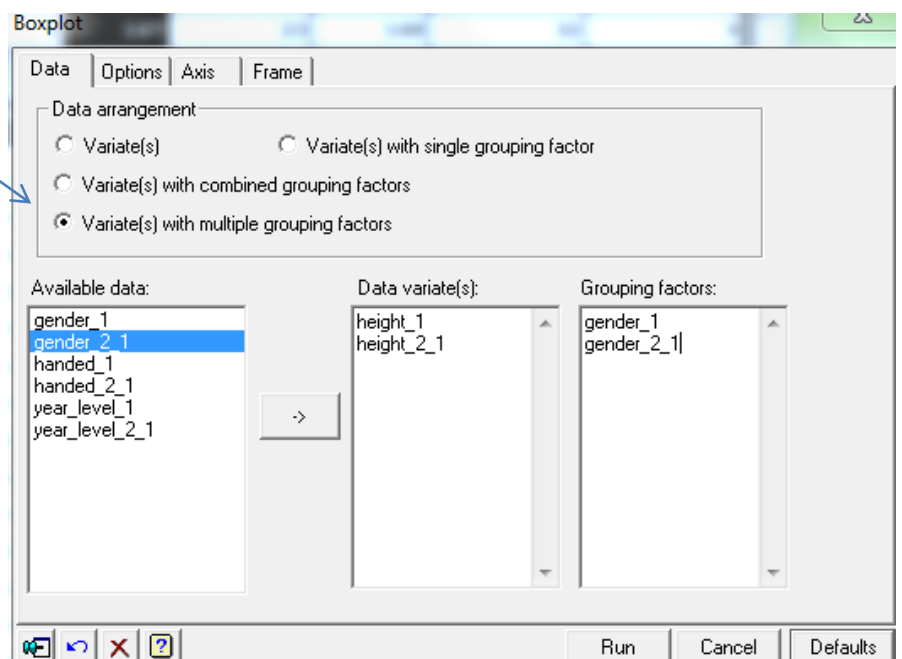
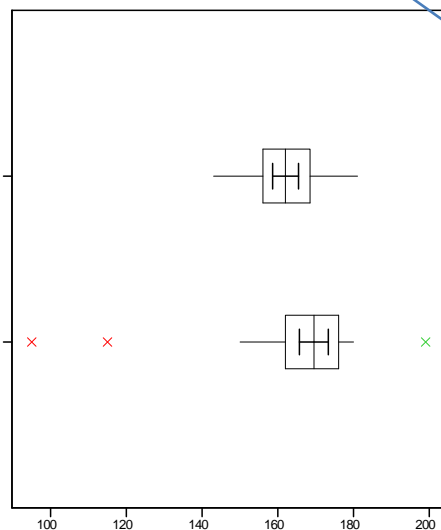
Drawing a Dot Plot

1. Choose **Dot Histogram** from the **Graphics** menu
2. Fill in Data as shown
3. Use the **Options** tab as shown



To make a stratified sample:

1. Copy the sheet : **Spread – Book –Move/Copy sheets**
2. Restrict one sheet to boys: **Spread – Restrict/Filter – By Groups**
3. And then use **Spread – delete – restricted rows**
4. Repeat for the other girls but restrict to girls.
5. Now take a random subset from both of 30 – you will have two sheets
6. Graph as before but this time your have more than multiple grouping



height_1: girl
height_2: boy