**Statistics # 2 – Variability and Histograms**

1. Download Statistics # 2 – Variability and Histograms from my webpage and save the file as “Last Name First Name Statistics #2” e.g. “MacKenzie Sasho Statistics #2”. This can be done by clicking File -> Download as ->Excel. Remember to change the file name when saving to your computer. This file should be saved in the same folder on your H: Drive as your first statistics assignment.
2. Open the file in Excel
3. Fill in the answers for all shaded cells ([mean](http://en.wikipedia.org/wiki/Arithmetic_mean), [range](http://en.wikipedia.org/wiki/Range_(statistics)), [standard deviation](http://en.wikipedia.org/wiki/Standard_deviation), [variance](http://en.wikipedia.org/wiki/Variance) etc.). Consider the class to be a *sample* of a large *population* of university students. Show all values to one decimal place.
4. Plot a [histogram](http://en.wikipedia.org/wiki/Histogram) for the height data for the entire class. Each bin should cover 6 cm.
   1. You will plot columns G and H as a Column graph to construct the histogram
   2. Follow the example used in cells F2:H3 to calculate information for the rest of the bins, x labels, and frequencies.
   3. Label your final bin “> 187”.
   4. The histogram should be inserted as a New Sheet labeled “Height Histogram”, with appropriate X and Y axis titles.
   5. On the graph, have Excel include the number of students belonging to each bin:
      1. On the graph, right click on one of the columns.
      2. Select “Add Data Labels”
5. Apply the instructions from #4 to create a histogram of Wing Span for only the females in the class. It will be easier to add a new worksheet, Use the Data->Sort feature, and delete all the males. Your first bin should include all females with a wing span less than 156 cm. Use a bin width of 7 cm for the remaining bins.
6. Apply the instructions from #4 and #5 above to create a histogram of Age for all students in the class. Your first bin should include all students with an age less than 7400 days. Use a bin width of 60 days for the remaining bins and label the final bin “> 7759”. Insert a text box with a white background into the histogram sheet and explain why the Age histogram does not follow a [normal distribution](http://en.wikipedia.org/wiki/Normal_distribution).
7. Email your Excel file to the class gmail account. Type “Statistics #2” as your subject and nothing else, not your name, nothing. In fact, copy and past **Statistics #2** from here into your email.