Lab 5

1. Get Excel to sketch the graph of the function $y = x^3 - x^2 - 4x + 4, x \in [-3, 3]$ and the tangent line to the graph at the point (x_0, y_0) on the same axes. The values of x_0 and y_0 respectively should be determined by values stored in two of the spreadsheet cells.
   Insert an ActiveX spinbutton control into the spreadsheet and use it to vary the value of x_0.

2. Write a program which seeks to evaluate the sum

$$S = \sum_{i=1}^{100n} \frac{1}{n}$$

   for integers $n = 2, 3, ..100$.

   Get the program to create a text file of the pairs $(n, |S - 100|)$. Use the data in the text file to plot a scattergram in MSExcel.

   What can we learn from the scattergram about rounding error?