Mini-Project C: Project Euler Problem 99 - Largest Exponential

Comparing two numbers written in index form like 2^{11} and 3^7 is not difficult, as any calculator would confirm that $211 = 2048 < 3^7 = 2187$.

However, confirming that $632382^{518061} > 519432^{525806}$ would be much more difficult, as both numbers contain over three million digits.

Using base_exp.txt (right click and 'Save Link/Target As...'), a 22K text file containing one thousand lines with a base/exponent pair on each line, determine which line number has the greatest numerical value.

NOTE: The first two lines in the file represent the numbers in the example given above.

Support: Students will need to learn/know: if statements, for loops, and how to read information from a text file.

Standard addressed: A-SSE3. Write expressions in equivalent forms to solve problems. [Quadratic and exponential] Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.