Problem four

In this problem, I was asked to in c with out use of other libraries, read in three parts of data set from a text file time, FoF2 and FmF2, sort it by time, and smooth the FoF2 and FmF2 data sets with a median filter.

I read in the data using standard C functions and converted it into a simplistic representation of the number of seconds, Then ordered it using qsort. I created a median filter of sample size three, that took the data adjacent to each point, and used a quick bubble sort to calculate the median of the three points for each data point.

In this problem Learned a lot about having to use read in functions. To start with I attempted to read letter by letter, using the data formatting to find the start of each data column. However after getting that working, I found later data points did not start at the same column in the document. I then noticed one constate which was the number of spaces in the data structure and read in each line, then parsed it based on the groupings of spaces. This proved to be a far more robust method to errors