Data object design:

FieldFilter objects have nullable min and max values. It only supports the min-max format, and it only supports numeric types. Data is put from field values from the UI into these objects to allow for a more complex search.

CerealInfo is a data row with all the values filled in. It was kind of weird working with the mixed string and numeric types here because I did not have a good way of properly tracking types. I would expect to encounter issues with types if I refactored this further or had to deal with slightly different data.

* How long did it take?

Maybe 8-10 hours total?

* What went right?

I’m feeling good about the result from my LINQ queries. Although the function containing the queries is long, it does everything that I wanted it to do as far as querying numeric fields. My UI is functional enough for me to use and it could have turned out looking worse, so I’m happy enough about my simple UI as well.

* What went wrong?

Things got a bit messy with the different data types (see the summary of CerealInfo at the top). I ran into some problems trying to make my UI, but that wasn’t too bad. I didn’t know how to add the csv as an easily loadable data source from within the software, so right now the app is very fragile due to it needing to locate that file.

* What would you do differently next time?

If I had more time on my own, I would try to look into different UI designs more to handle the visual clutter and try to make the UX better.

I was also trying to add some kind of component that would allow a user to specify either a numeric min-max value range or a string value match. This would have been implemented by using some interface for my FieldFilter class to allow for a MinMaxFieldFilter and StringFieldFilter. My code just uses FieldFilter in the former case as a numeric type, so the user may only sort on those string fields instead of matching on them. The only string field that the user can filter on for this app is the name field.