

THE ABIDE FINANCIAL CODING CHALLENGE

We have a broad range of roles here at Abide Financial. If you were to come and work with us you would be an active participant in all stages of the software development lifecycle, from analysis and design through to testing and operational delivery, all using the agile methodology. We like everyone here to have a lot of responsibility and autonomy so you will have a large degree of freedom in designing and delivering your projects.

This challenge is not targeted at senior developers only. We welcome applications from all experience levels. We will review your solution based on what we read in your CV and the post you are applying for at Abide.

A lot of the work we carry out involves working with large datasets. At the core of everything we build is the need to deliver the efficient processing of large transaction volumes on a daily basis. The following coding challenge is to give you a taste of the sort of work we do here at Abide. In it we ask you to build a solution from scratch to process and analyse a large dataset.

There is no right or wrong way to tackle this challenge, but we will be drawn to solutions that have been engineered in an efficient and extensible way (while taking your experience into account.) There are a number of guidelines below that describe the things we are looking for.

THE TASK

The below links are to datasets containing NHS data. You will find data on UK practices and their prescriptions prescribed in a year.

<http://datagov.ic.nhs.uk/T201202ADD%20REXT.CSV>

<http://datagov.ic.nhs.uk/T201109PDP%20IEXT.CSV>

We would like you to build and submit a solution that parses these datasets and answers the following questions:

1. How many practices are in London?
2. What was the average actual cost of all peppermint oil prescriptions?
3. Which 5 post codes have the highest actual spend, and how much did each spend in total?
4. For each region of England (North East, South West, London, etc.):
 - a. What was the average price per prescription of Flucloxacillin (excluding Co-Fluampicil)?
 - b. How much did this vary from the national mean?
5. Come up with your own interesting question about NHS prescriptions in England and use the data (plus any other sources you'd like to use) to answer it.

WHAT WE'RE LOOKING FOR

The motivation behind the challenge is to see how you approach building the solution. Below are some guidelines on what we expect to see. If you are applying for a junior role then we will be expecting less of these guidelines to be met, but you are welcome to tackle as many as you like.

- The application should be efficient with the resources available.

- The answers to the questions should be calculated as quickly as possible (with the first point being taken into account).
- The results of the questions should be clear.
- There should be a sufficient number of tests built into the solution.
- The code should be readable and use understandable patterns.
- It should be minimal effort to add more questions. A developer should be able to do this without needing knowledge of the entire system.

LANGUAGES

We primarily use C# and Python at Abide. We would therefore prefer any submissions to be in these languages. However, if you feel that these languages are a bit of a push then we have a few others you could choose from listed below (provided that the resulting project is easy to compile and execute). Please do not use SQL or store results in a database.

- C# using Visual Studio.
- Python (using mainly Python's standard library and preferably Python 3.x).
- Java using Eclipse or IntelliJ (with easy to compile dependencies).
- F# using Visual Studio.
- C++ using Visual Studio (with easy to compile dependencies).
- VB.NET using Visual Studio

SUBMITTING

All submissions should be sent to recruitment@abide-financial.com. Please zip your solution without executables or DLLs and make note of any external data sources you have used. The solution should be ready to run out of the box.

Please feel free to send any questions you have to recruitment@abide-financial.com and we will be happy to help.