

# FX Structuring – Developer – Candidate Test

## Candidate Test Solution – Harry Campion

June 16<sup>th</sup> , 2020

### Part 1

- Created function to read the coordinates from the .txt files and store as array of floats.
- Implemented a class called "SqlMock" which creates the mock tables and inserts the coordinates into the table. Connection defaults to ":memory:", to create the database and store the data in RAM.
- Created class called "PolynomialSolver" which will solve a polynomial for x and y coordinates and stated degree. Has several methods to get the coefficients and roots of a polynomial. Solving this returns a dictionary of the results.
- All stored in helpers.py module.

### Part 2

- "run.py" contains the main function which utilises the helper module from part 1.
- Creates the graphs using plotly but stores as JSON so that they can be rendered in the browser.
- Only one view – the main view.
- Displays graph, coefficients, and roots.
- Some small additions to index.html – Mathjax to give Latex style formatting.
- Dockerized and exposed to port 5000. Running on host = "0.0.0.0".
- README file exists detailing how to run, however "./Dockerize.sh" will build image and run the docker container. Runs detached so navigate to "http://0.0.0.0:5000/".
- "Dockerize.sh" is just a shell script to run the docker commands with exposed ports.