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Quantitative Researcher Assessment Process Guidance

Thank you for applying to work with us at G-Research. This letter contains some suggestions on how to prepare. We advise spending no more than two weeks preparing for the quant test as we'll provide feedback for future rounds if required.

The test assesses basic skills more than advanced mathematics. Key topics include probability, statistics (inc. OLS), linear algebra, calculus (esp. differential equations), programming and finance.

All eight questions in Part A and one of the six Part B questions should be attempted; the text takes 90 minutes; 15 marks out of 25 is a pass.

A previous version of the test is here. Its first 10 questions are similar to current Part A questions; its final question is similar to a current Part B question.

One way of preparing for the test is to work through a book like Stefanica, Radoičić and Wang.¹ Relative to our test, it emphasises numerical methods more and statistics less. Its more advanced questions are closer to the level of our technical interview questions than of our test questions.

We do not assume a detailed knowledge of finance. *If* you wanted a single source, Narang² is a good, casual introduction to many of these concepts.

If the test goes well, the next step will be a 'triage' interview, in which we identify the appropriate technical interviews for you. One of these will be Maths; two will be drawn from Stats, Finance, Programming and ML. If these goes well, the final two stages are managers' interviews (in which we assess which team is most appropriate for you) and senior management interviews (group head, Head of Research Products, CEO).

¹Dan Stefanica, Radoš Radoičić and Tai-ho Wang. *150 Most Frequently Asked Questions on Quant Interviews*. Pocket Book Guides for Quant Interviews. FE Press, 2013.

²Rishi K. Narang. *Inside the black box: A simple guide to quantitative and high frequency trading*. 2nd. John Wiley & Sons, 2013.

Best wishes and looking forward to meeting,

A handwritten signature in black ink that reads "Alex Whitlock". The script is fluid and cursive, with the first letters of each word being capitalized and larger than the rest.

Alex Whitlock
Head of Talent Acquisition

p.s. If you wanted coding practice, ProjectEuler.net is a nice place to start: it provides bite-size maths problems that often require a computational solution. Codility, Kaggle and TopCoder have similar projects. Working up to Kaggle would be a good idea: they have become an industry standard as their prediction problems are close to a lot of quant work. Googling ‘programming brain teasers’ is also good preparation for the programming technical interview.

p.p.s. If you would like to explore further, an extensive reading list in finance — from introductory to expert — is in the community wiki answer here. A classic 1st generation Wall St quant memoir is Derman;³ Schwager⁴ interviews successful fund managers about their trading strategies. Books about quants by non-quants tend to be more juicy than deep; a good recent example is Zuckerman.⁵

p.p.p.s. If you were interested in getting some trading experience, Narang’s focus on trading strategies would help you assess and implement your understanding of the theory.

³Emanuel Derman. *My life as a quant: reflections on physics and finance*. John Wiley & Sons, 2004.

⁴Jack D Schwager. *Hedge fund market wizards: How winning traders win*. John Wiley & Sons, 2012.

⁵Gregory Zuckerman. *The man who solved the market: how Jim Simons Launched the quant revolution*. Penguin, 2019.