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Interview Challenge[1]

Please read this carefully.

Exploratory data analysis (EDA) is the foundation of many of our projects. It helps us uncover valuable insights that drive business decisions. Therefore, we'd like to assess your ability to carry out an EDA by completing this challenge.

Please pick one of the following three topics and perform an EDA with the objectives in mind. You are welcome to spend as much or as little time as you like on this but - overall - we do not expect you to spend more than 2 hours on this exercise.

Please be prepared to discuss this challenge during the next interview call with us.

Option 1: Business names

Download data from this page

Objective: What can we learn about business names? How can we use these insights? For example: Are there structural differences in business names correlated with company size? Can I figure out what type of company it is? etc.

Option 2: Toronto's TTC subway delay

Download data from this page (there is a lot of data here but you are welcome to download as little or as much as you want based on your EDA direction)

Objective: What can we learn about delays? Can we predict them? Can we prevent them?

Option 3: Toronto traffic volumes by intersection and modes of transportation

Download data from this page (there is a lot of data here but you are welcome to download as little or as much as you want based on your EDA direction)

Objective: What can we learn about traffic in Toronto? Can we predict them? Can we avoid traffic based on this data?

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[1] Make sure you have fun! If this challenge is not fun for you, this job likely won't be fun either.

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Rules + Advice

- Process & next steps
    - Please submit your answers to Monish via email. If you won't be completing this challenge, please let us know ASAP as well.
- Any questions? You can contact Ken (ken@gradient-ascent.com), our Technical Lead
    - We welcome your questions throughout the process & are happy to hop on a call if needed. Asking us for help is allowed - we reserve the right to not answer some questions.
    - A lot of this challenge has been very intentionally left ambiguous. Do research. Use your judgement. Make good assumptions. Ask us questions.
- Just to repeat: Make sure you have fun! If this is not fun for you, this job likely won't be fun either. You are welcome to modify the challenge to make it more interesting (just let us know).
- This is not a trick question/challenge/project. We have worked on these or similar problems and expect to work on these types of challenges with you.
- You are certainly allowed to research the solution and leverage pre-existing code/ideas as much as you like... however, you may not get someone else to help you architect or write this.
- We recommend that you share your progress with us. Minimize surprises.
- You are welcome to have a shared Google Drive folder with us where we can see your progress and guide you if needed. (Entirely up to you)
- Use your time wisely. This can be a complex challenge.
- You will be evaluated on multiple criteria: overall solution, quality of assumptions, quality of architecture, productivity, your approach, thought process, your ability to execute this, etc. We care about the final outcome as well as the steps you took to get there.
- Tip: We love to ask → why.
- **If you don't think you will have enough time due to prior commitments, please inform us & we can explore other options.**
- Presentation matters but the underlying approach and thought process matters a lot more.

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- This is not a paid exercise.
- Do your best to allow us to see how awesome your solution is - ie. make it VERY easy for us to see it in action.
- Please keep this exercise confidential just to you. Do not share this challenge document or answers publicly.

Thank you.
We wish you all the best.