

Context: GivingTuesday frequently looks at government and non-profit data to uncover insights and drive decision-making. We would like you to take a look at some data and deliver a report describing your initial data exploration and ideas for future work. This report should:

- Summarize the data,
- Describe some interesting patterns and/or trends in the data,
- Outline what a future research/business project might look like and why you think it's important.

Expectation: Spend 2-3 hours ingesting data and analyzing. Use Python or SQL in analysis.

Objective: Test technical skills, but also (more importantly) research/business problem-solving.

Dataset:

- IRS [Tax Extract](#) and [EOBMF](#)
- US nonprofits are tax-exempt organizations, who must publicly report their taxes. The datasets above summarize tax returns (tax extract) and organizations (EOBMF).

Description:

- Your job is to choose one or both files, and:
 - Quickly characterize the “grain” (what are rows unique to)
 - Quickly characterize the broad categories of data available (not by data type, but at the semantic / analysis level)
 - Define an interesting business or research problem to solve
 - Quickly characterize the dataset (via summary stats or graphs), to generally characterize the data you’ll be using for analysis.
 - Provide tabular and graphical breakdowns (at least one of each) of the data, along with written commentary, to begin addressing that problem.

Expected outputs:

- Notebook containing code (Python or SQL), as well as tabular, graphical, and text outputs.
- Text outputs should:
 - Describe the dataset used (which file(s), grain & categories of data)
 - Describe the problem and why you think it’s important
 - Describe each analysis output - what it is and how it informs the business problem

Criteria we’ll be reviewing

- Overall coding and notebook approach
- Justification of what problem you choose
- Analytic approach to solving the problem
- Ability to communicate, in words, your findings
- Overall sense of quality, prioritization, approach, and technical skill

Desirable skills:

- Translating business problems into analyses
- Writing up and communicating results to technical and non-technical audiences
- Building notebooks or dashboards to make analysis repeatable (as needed)