Dear applicant,

Please review the information below and complete the challenges to your best ability. This is intended to be a foundation for further discussion and should not require the entire time to complete.

Please consider this exercise and the challenges therein to be a single project with multiple parts – and address it as something that you are tackling for a work project for Benson Hill. You should compose your work so that others on the team might review your approach, so that your supervisor can quickly understand what you did and why, and so that higher level stakeholders can understand your conclusions and the implications they have to our business.

Return your results as an email attachment to me within 48 hours. Do not share the exercise with others.

Best,

DK

**Challenge**

The Field and Environmental Data Science team (FEDS) is keen to identify the very best wines available from a local distributor for our upcoming company party.  Fortunately, the distributor has a sense of our propensity for quantification, and thus has kept meticulous records on the rankings, quality, and characteristics of her stock. She provided her dataset for our evaluation and to support our choice of wines for the upcoming party

Use the data set to identify wines for the party with the following characteristics:

1. From which region are we most likely to find the highest quality wines?
2. Please select 10 wines for the party. What are they, and why did you select them?
3. Which of the characteristics most influence wine quality?
4. Despite his gruff exterior, it turns out that Matt Crisp, the CEO of Benson Hill, has a sweet tooth and that he only likes the sweetest of wines. He also has knowledge of flavor and thus dislikes the “barnyard” features of wines with high free sulfur dioxide. Taking into account Matt’s preferences, and all the other features of quality, which wine would you select for him? Why?

Please document your work, code, thinking, and conclusions in a way that can be digested by the team, and that will appeal to the purchasing folks responsible for procuring drink for the upcoming party. You may use whichever analytical tools that you prefer and incorporate open source materials as you like. Do not use commercial software or tools that require paid licenses, or that will require subscriptions by Benson Hill.

Wine data originally from P. Cortez, A. Cerdeira, F. Almeida, T. Matos and J. Reis. Modeling wine preferences by data mining from physicochemical properties. In *Decision Support Systems*, Elsevier, 47(4):547-553, 2009.