Questions to explore:

1. How do we define the quality of an app? (reviews? Rating? Or Combine, like define a metrics based on overall rating, current rating and number of reviews) (**metric as a proxy for user experience**)

High ratings with less reviews is not necessarily better quality.
High ratings with more reviews is assumed to have better quality.

=> **0.8[nc/no * current rating +(1-nc/no)*overall rating] + 0.2*overall rating**
Note: nc is number of current rating; no is number of overall rating

2. What are the distributions of ratings/number of reviews across categories? Is there a correlation between app file size and quality? (**EDA**)

3. Is there any difference in app quality for free apps with in-app purchases? (**hypothesis testing**)

4. Do multiple languages influent the reviews of apps?(**hypothesis testing**)

5. What are the best/worst quality apps and how people commented on those? (Built topic modeling based on good/bad quality apps' reviews. Refer to Vincent's project)(**NLP application**)

6. Are there any characteristics/patterns for the apps improving higher current version ratings comparing to overall ratings? **(NLP application**)
Filter the apps based on the ratio (number of current ratings/number of overall ratings)

7. Can we build a model to predict the app rating when new version released?()
Response: current version rating (continuous 0-5)
Features: overall rating(category)
Number of overall rating(continuous) - popularity
Week of day for release date(date)
Time range between release date and extraction date (date - binning to category)
App category (category)
Is_InAppPurcase(category)
AppFileSize(numeric)

Text Features form new version description:
lengthOfText - text statistics
SentimentScores - by NLTK
IsNewFeature - If there exist some critical words like 'add' 'new' 'more'
IsMinorBugFix - If there exist some critical words like "minor", "small"