Question	Hypothesis	Sampling plan	Analysis Plan	Rationale for deciding the sensitivity of the test for confirming or disconfirming the hypothesis	Interpretation given different outcomes	Theory that could be shown wrong by the outcomes
How does the weather affect listening habits?	H_1– More rainfall will result in a greater proportion of explicit songs being represented in songs entering the streaming charts. H_2 – Lower temperature will result in a greater proportion of explicit songs being represented in the streaming charts. H_3 – Higher temperature will result in a higher proportion of songs with a greater energy score being represented in the streaming charts. H_3 – Lower rainfall will result in a higher proportion of songs with a higher energy score being represented in the streaming charts. H_5 – Listening habits in another country will follow a similar pattern.	Use of secondary datasets publicly available (i.e. via Kaggle, The Met Office, and use of the Spotify API etc.) Selection of relevant data – a standardised time period i.e. only for a one year period (2020), and only one country (UK) and in the top 10. (May need to do multiple years due to low amounts of data with filters in place) A second country may be used to consider the robustness of the model as well as comparing to top 20.	Correlation analysis – to determine whether there is an association. Multiple regression analysis – to examine the relationship, between multiple variables, to measure the effect, and to predict novel outcomes. T-Test – when considering another country, to see if there is *significant* difference in listening behaviour.	Must be a significant predictor of the desired outcome. 95% for T-test and p-values, so that it can be said that any difference or association is significant. Overall, the model must predict accurately...	A third variable not considered may play a more influential role – i.e. cultural inputs, seasonality or asymmetric marketing.	“Bad” weather – such as cold or rainy days - leads to different listening habits, whereby explicit music could be correlated with more anger, or general negativity – as aligned with their perception/experience of the weather. “Better” weather will lead to more energetic, ‘happier’ songs that...

Guidance Notes

- **Question**: articulate each research question being addressed in one sentence.
- **Hypothesis**: where applicable, a prediction arising from the research question, stated in terms of specific variables rather than concepts. Where the testability of one or more hypotheses depends on the verification of auxiliary assumptions (such as positive controls, tests of intervention fidelity, manipulation checks, or any other quality checks), any tests of such assumptions should be listed as hypotheses. Stage 1 proposals that do not seek to test hypotheses can ignore or delete this column.
- **Sampling plan**: For proposals using inferential statistics, the details of the statistical sampling plan for the specific hypothesis (e.g power analysis, Bayes Factor Design Analysis, ROPE etc). For proposals that do not use inferential statistics, include a description and justification of the sample size.
- **Analysis plan**: For hypothesis-driven studies, the specific test(s) that will confirm or disconfirm the hypothesis. For non-hypothesis-driven studies, the test(s) that will answer the research question.
- **Rationale for deciding the sensitivity of the test for confirming or disconfirming the hypothesis**: For hypothesis-driven studies that employ inferential statistics, an explanation of how the authors determined a relevant effect size for statistical power analysis, equivalence testing, Bayes factors, or other approach.
- **Interpretation given different outcomes**: A prospective interpretation of different potential outcomes, making clear which outcomes would confirm or disconfirm the hypothesis.
- **Theory that could be shown wrong by the outcomes**: Where the proposal is testing a theory, make clear what theory could be shown to be wrong, incomplete, or otherwise inadequate by the outcomes of the research.