

Programming Assignment Marking Rubric

Data Storytelling (20%)

F - Fail [0-39]	<ul style="list-style-type: none">• Research question is not present.• No introduction or conclusion.• No key results are presented.
D – Pass [40 - 49]	<ul style="list-style-type: none">• Research question is unclear, unjustified or makes little sense.• Introduction, key results and conclusion lacks structure.• The arguments and conclusions are weak or lack clarity with unsubstantiated statements.
C – Good [50-59]	<ul style="list-style-type: none">• Research question is clear, but it is not justified.• Introduction, key results and conclusion are structured in a clear and coherent way.• The arguments and conclusions are sound and justified.
B – Very Good [60-69]	<ul style="list-style-type: none">• Research question is justified and demonstrates very good understanding of the data and their context.• Introduction, key results and conclusion are clear and coherent showing logical, ordered thought.• The arguments and conclusions show initiative, the ability to think clearly, critically evaluate ideas and draw sound conclusions.
A3 – Excellent [70-79]	<ul style="list-style-type: none">• Research question is highly original, ambitious, and demonstrates deep understanding of the data and their context.• Clear justification provided for the chosen question with relevant references.• Narrative is compelling, insightful and shows evidence of critical thinking.• Multiple data sources are used where appropriate.• All recommendations and conclusions are grounded in the data.• Limitations of the dataset are discussed, and “next steps” suggested, particularly in terms of data that would

	allow for further analysis.
A2 – Excellent [80-89]	<ul style="list-style-type: none"> • A truly professional piece of work, with an absence of errors. As ‘A3’ but shows significant personal insight, extra depth and academic maturity.
A1 – Exceptional [90-100]	<ul style="list-style-type: none"> • Faultless storytelling. The work is well beyond that expected at this level of study.

Data Wrangling (25%)

F - Fail [0-39]	<ul style="list-style-type: none"> • Data are uncleaned or improperly transformed, resulting in unusable or incorrect results. • Indicates a serious lack of data wrangling knowledge. • The submitted code is of limited size and cannot be executed.
D – Pass [40 - 49]	<ul style="list-style-type: none"> • There is an attempt to clean and transform the data, but with major inaccuracies. • Indicates basic data wrangling knowledge. • Code is difficult to read, repetitive in places or is poorly structured. • There are several unused variables and/or dead code. • There are no joins to other data. • Code executes without errors but with some warnings.
C – Good [50-59]	<ul style="list-style-type: none"> • Data have been cleaned and are properly transformed with minor inaccuracies. • Indicates sound but limited data wrangling knowledge. • Code is not DRY with lots of repetition. • Few or no unused variables or dead code. • Joins have been handled adequately. • Code executes without errors or warnings.

B – Very Good [60-69]	<ul style="list-style-type: none"> • Data have been cleaned and are properly transformed with few inaccuracies. • Indicates a firm grasp of data wrangling knowledge. • Code is DRY with little repetition. • No unused variables or dead code. • Joins have been handled well. • Code executes without errors or warnings.
A3 – Excellent [70-79]	<ul style="list-style-type: none"> • Data have been cleaned and are properly transformed with no inaccuracies. • Indicates an excellent command of data wrangling. • Code is DRY with no repetition and likely to support re-use. • No unused variables or dead code. • Joins have been handled well. • Code executes without errors or warnings and is easily readable.
A2 – Excellent [80-89]	<ul style="list-style-type: none"> • A truly professional piece of work, with an absence of errors. As ‘A3’ but shows extra depth and use of advanced techniques not taught in the course.
A1 – Exceptional [90-100]	<ul style="list-style-type: none"> • The code is faultless. The work is well beyond that expected at the appropriate level of study.

Plots and Tables (25%)

F - Fail [0-39]	<ul style="list-style-type: none"> • There are no plots or tables.
D – Pass [40 - 49]	<ul style="list-style-type: none"> • Plots and tables show flaws and are basic. • Labels and titles have not been used. • No use of settings other than default.

C – Good [50-59]	<ul style="list-style-type: none"> • There are more than 4 plots and/or tables. • No use of settings other than default. • Plots and tables presented well but with some minor issues (e.g., too much or too little spacing, inconsistent number formats).
B – Very Good [60-69]	<ul style="list-style-type: none"> • Well labeled and titled plots. • Well labeled and titled tables. • Appropriate and thoughtful data visualisation with some use of non-default settings.
A3 – Excellent [70-79]	<ul style="list-style-type: none"> • Plots and tables are highly effective, communicate well and go beyond default settings. • Techniques such as faceting, multi-layered plots, or interactive visualizations have been used.
A2 – Excellent [80-89]	<ul style="list-style-type: none"> • Truly professional data visualisation. As ‘A3’ but shows significant creativity and advanced visualisation skills.
A1 – Exceptional [90-100]	<ul style="list-style-type: none"> • Faultless visualisations. The work is well beyond that expected at this level of study.

Reporting (20%)

F - Fail [0-39]	<ul style="list-style-type: none"> • Report is poor, difficult to follow, or is not in the format (Github Page) required.
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D – Pass [40 - 49]	<ul style="list-style-type: none"> • Presentation is inadequate and uses no R Markdown features. It is readable but could be improved for better flow and clarity. • Shows flaws in the overall standard of presentation or in specific areas such as figures, referencing techniques. • Unnecessary output has not been suppressed.
C – Good [50-59]	<ul style="list-style-type: none"> • Presentation is reasonable but uses no R Markdown features. • Generally well presented but there may be some flaws, for example in figures, tables, referencing technique. • Unnecessary output has been suppressed.
B – Very Good [60-69]	<ul style="list-style-type: none"> • Very good presentation. Clear and well structured. Good use of R Markdown features (e.g. YAML title, date, headings, sub-headings, table of contents). • Clear and well presented with relatively minor flaws. Accurate referencing. • Unnecessary output has been suppressed.
A3 – Excellent [70-79]	<ul style="list-style-type: none"> • Very high standard of style and presentation, using appropriate features of R Markdown (beyond those in B). • Clear and well presented with no flaws. Accurate referencing. • Unnecessary output has been suppressed.
A2 – Excellent [80-89]	<ul style="list-style-type: none"> • A truly professional piece of work, often with no errors. As ‘A3’ but shows advanced features of R Markdown effectively. It is easy to follow and visually appealing.
A1 – Exceptional [90-100]	<ul style="list-style-type: none"> • Faultless reporting. The work is well beyond that expected at this level of study.

Reproducibility (10%)

F - Fail [0-39]	<ul style="list-style-type: none">• R markdown has not been used.• Report is not reproducible.• There are no comments.• Code readability and object naming is poor.
D – Pass [40 - 49]	<ul style="list-style-type: none">• Reproduction of the report is difficult or impossible.• Comments are limited or unclear.• Code is difficult to read in places.• Object naming is satisfactory in most cases.
C – Good [50-59]	<ul style="list-style-type: none">• Reproduction of the report is possible, but requires some effort.• Comments are clear.• Code is mostly readable.• Object naming is satisfactory.
B – Very Good [60-69]	<ul style="list-style-type: none">• The report can be easily reproduced.• Comments are clear and explain ‘why’ code was written in a particular way.• Object naming is very good, e.g. human readable and meaningful variable names.
A3 – Excellent [70-79]	<ul style="list-style-type: none">• The report can be easily reproduced by others.• Comments are very clear and explain ‘why’ code was written in a particular way.• Object names are meaningful, consistent and human readable.• The structure of the repo is immediately clear and follows convention.
A2 – Excellent [80-89]	<ul style="list-style-type: none">• A truly professional piece of work, often no errors. As ‘A3’ but shows significant empathy for other people reading and editing your code in the future.

A1 – Exceptional [90-100]

- Faultless reproducibility. The work is well beyond that expected at this level of study.

