Background:

Pokémon is a Japanese media franchise centered on fictional creatures called "Pokémon", which humans, known as Pokémon Trainers, catch and train to battle each other for sport. A Trainer who encounters a wild Pokémon is able to capture that Pokémon by throwing a Poké Ball at it. If the Pokémon is unable to escape the confines of the Poké Ball, it is considered to be under the ownership of that Trainer, and will obey whatever commands it receives. Trainers can send out any of their Pokémon to wage battles against other Pokémon; if the opposing Pokémon is wild, the Trainer can capture that Pokémon with a Poké Ball, increasing their collection of creatures. If a Pokémon fully defeats an opponent in battle so that the opponent is knocked out ("faints"), the winning Pokémon gains experience points. This dataset contains battling aptitude statistics, along with other information on each character.

Data Description:

The data are described below:

Variable name	Description
Name	The name of the Pokémon.
Type	Category for Pokémon and their moves.
HP	Measures how much damage a Pokémon can receive before fainting.
Attack	Measures how much damage a Pokémon deals when using a physical move.
Defense	Measures how much damage a Pokémon receives when it is hit with a physical move.
Sp.Atk	Measures how much damage a Pokémon deals when using a special move.
Sp.Def	Measures how much damage a Pokémon receives when it is hit with a special move.
Speed	Pokémon with higher speed generally make a move before those with lower speed.
Generation	A generation is a grouping of the Pokémon games that separates them based on the Pokémon they include.

Objective:

The objective of the analysis is to identify what Pokémon exhibit similar battling characteristics. Are they of the same Generation? Are they of the same Type? Any other insights?

You are required to write:

(a) a technical report suitable for a technically aware audience describing the analysis using code and output from R and RStudio. This should include a full exploratory analysis with appropriate plots

and initial conclusions, a full outline of the subsequent analysis undertaken with relevant output from R and RStudio. Please ensure you only include relevant material.

(b) a summary report suitable for a non-technical audience (maximum 500 words) outlining the main conclusions from your data analysis.

Additional comments:

1. This assignment is worth 20% of your final grade.

2. All assignments should be submitted online via SULIS. If you are uploading multiple files, you should first create a zip file and then upload.

3. While discussion of the problems is encouraged, plagiarism is not permitted. Anyone found to have been involved in plagiarism will score 0.

4. I have included a skeleton RMarkdown file on SULIS. This gives a very basic outline for the assignment and you can add in sections/code chunks/etc. as appropriate. When you have completed the assignment, you should export your HTML/PDF file AND your .Rmd file by ticking the box beside each filename, clicking "More" and then "Export". These files can then be uploaded to SULIS as per Point 1.

5. There is no minimum page limit for the analysis but please do not go beyond 5-6 pages. Please resize figures in RMarkdown to ensure these appear in an appropriate size in the PDF/Word document and reduce document size.