Instructions:

- Answer all questions.

- Ensure that your findings and results are clearly stated and thoroughly discussed. Please support your arguments using suitable R code with the relevant outputs, interpretations, plots and graphs whenever possible. You should support your argument using appropriate theory that is appropriately referenced.

- The R commands that you use in obtaining your results for all questions must be documented in a R script file. These scripts must be clearly commented. Ensure that any output is clearly stated and interpreted separately from the code as additional comments.

- Include the task name, your name and surname, and your student number in your R script file.

- You MUST label each answer by question number and, where a question has multiple parts, label each part of the question CLEARLY.

- On completion of your assignment, please submit onto RUconnected. If there are any issues uploading onto RUconnected, you may email your submission to: a.langston@ru.ac.za. Please submit your R script file and any other saved data files and plots mentioned in the questions below. Your student number should be included in the name of each file that you submit.

- Each student must complete an individual assignment. You will be assessed based on the quality and/or correctness of the R code, its outputs, and your explanations and interpretations. Acknowledge any help you may have received. Feel free to note any help you may have given to other students in the course.

- This assignment must be submitted by Tuesday, 13 August 2024 by 17:00. Late submissions will be penalized.

- Please note the Rhodes University and the Rhodes University Department of Statistics plagiarism policies.

Questions:

Consider the data frame `vit2005` in the `PASWR` package, which contains data on the 218 used flats sold in Vitoria (Spain) in 2005. Provide R code to answer the following questions.

1. Import the data set into R.

2. Consider the variable `out`.

   (a) Create a frequency table for the apartments grouped by the variable `out`.

   (b) Create a relative frequency table for the apartments grouped by the variable `out`.

   (c) Create a barplot for the apartments grouped by the variable `out` using the `barplot()` function. Ensure that an appropriate title and the relevant axis labels are included on the plot. Ensure that you submit this plot as part of your assignment.

3. Create a relative frequency barplot for the apartments grouped by the variable `category` using the `barplot()` function. The bars in the plot should be different colours. Ensure that you submit this plot as part of your assignment.

4. Create a frequency barplot for the apartments grouped by the variable `streetcategory` using the `plot()` function. Explain why R automatically produces a barplot for this variable. Ensure that you submit this plot as part of your assignment.