STOR-609 Assessment 1 - Marks and Feedback

March 3, 2025

Name : Fiona Wilson

1 Quality of Source Code

- You have provided some well written code using a variety of idioms and data structure from the base R programming system
- You have supported your code with in comments

Mark (out of 5) : 5

2 Solution

- You have provided a working solution for generating integer partitions using your backtracking algorithm
- I cannot **re-run** your solution for generating Gray codes using your notebook. The issue appears to be associated with the use of **break** without an enclosing loop

```
output <- function(P, c) {
  print(c)
  break()
}
```

Mark (out of 5) : 3

3 Understanding Design Principles

- Your backtracking algorithm(s) rely on global definitions for the procedures they require. These should be passed as arguments (higher order programming).

Suggestions

- It would be useful for you to consider the computational complexity of your methods in more detail (i.e. how much extra "computation" is required as your problem size increases).

Mark (out of 5) : 4

4 Quality of Written Communication

- You have provided some supporting information regarding how your methods work for each of the problems.

Suggestions

- It would be really good if you also provided pseudo code for each of your **accept**, **reject**, **first**, and **next** methods.

Mark (out of 5) : 4.5

5 Overall Comments and Marks

- Make sure you understand how you can avoid the use of global methods and data in your code.
- Where data is shared encapsulate it together with the methods using a class pattern (object based programming).
- Do you remember looking at bitwise operations in the **Introductory Python Course** ? How might they be useful in the context of this assignment ?

Overall Mark (out of 20) : 16.5