

# STOR-609 Assessment 1 - Marks and Feedback

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## 1 Quality of Source Code

- Your source code is of an extremely high quality. Concise and effective
- Your code very clearly expresses its intent.
- You have provided good supporting comments where appropriate.

**Mark (out of 5) : 5**

## 2 Solution

- For both problems you have provided example code that produces a correct solution.
- Your code is designed so that it was easy for me to change the problem and produce further correct solutions (i.e. your code is both **re-usable** and **re-runnable**)

**Note** - I could not get your code that uses embedding to function correctly. Can you have a look at this again.

**Mark (out of 5) : 4.5**

## 3 Understanding Design Principles

- You have provided an implementation for a generic backtracking algorithm which is recognisable as such when compared with the [pseudo code provided](#).

**Suggestions** - Try and avoid use of global variables. - You have provided some examples which indicate how long your code takes to run. It would also 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) : 4.5**

## 4 Quality of Written Communication

- You have provided some excellent supporting information. It is very clear and understandable, and discusses your main design ideas and the representations you used

### 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

- You correctly identify the issues associated with stack size and recursion. It is unfortunate that many important algorithms are better expressed recursively (in terms of ease of understanding and analysis) yet many programming systems do not effectively support it. However, there are other programming systems that do support (tail) recursion such as F sharp.

### Suggestions

- There are alternatives to using global variables in your code. In future work it would be worth exploring these possibilities in more detail. For example, you could transport mutable state through your backtracking algorithm using the P variable included in the [pseudo code provided](#)
- 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) : 18.5