

**SC/MATH 1019B - HOMEWORK 4**  
**DUE DECEMBER 4, 2018**

*This assignment must be uploaded to moodle by December 4, 2018. This assignment should be typed.*

This assignment asks you to write a short (1 - 2 page) report on how a topic from the course can be applicable to computer science. You are encouraged to choose any topic of interest to you within discrete mathematics and computer science (broadly interpreted). Below is a non-exhaustive list of potential topics along with some key words to help you choose a topic.

- **Big-O** is used in analysis of algorithms where “time complexity” is a helpful keyword.
- **Strings** are used in many data structures and algorithms. Some keywords include: “string searching”, “string matching”, “formal languages”, ...
- **Relations** show up in “relational databases” like SQL.
- **Graphs** and **trees** are used to model many things; “networks” are often encoded as graphs or directed graphs.
- **Recursion** shows up in “dynamic programming” and many algorithms.
- **Sets** are an important notion. One option for the assignment would be to figure out ways of representing sets and performing set operations on a computer.