

## CS212 Topics in Computing 2 2019, Term 2 Second Half: Lab 4

### Weights in your Mark

Details can be found in Lab 1. This assignment is 5% worth of your second half of cs212 mark.

### Assessment & Submission

The report for this lab assignment with your screenshots needs to be uploaded to myPlace before 12pm on Monday March 25<sup>th</sup> as a single PDF file. Get in touch with the lecturer ASAP if you are unable to meet those requirements due to your individual circumstances or technical glitches on our lab computers.

You can work on this assignment in the groups of your choice no larger than 3 students. But make sure everyone retains the copy of the code and uploads the report, which will be marked individually. You don't need to state the names of the students in the group.

### Assessment Criteria

See lab 1.

### Instructions

**Task 1. (25%)** Using our Lecture 5 slides as guidance, complete the exercise from Lecture 4. You can use the exercise file as a template, or MS Excel, or paper and pencil and include a photo of your solution.

**Task 2. (25%)** Using our Lecture 5 slides as guidance, modify your code from Lab 2, Task 2 so it can handle multiple classes. Test it on the same data as in Task 1. You can use your own printing format, but make sure your program prints all the numbers for the table in Task 1 and the printed numbers match those that you obtained in Task 2.

**Task 3. (50%)** Combine your code from today's Task 2 and your code from Lab 3 so it can learn to recognize hand-written digits. Use output format similar to Lab 3. Take the screenshots covering your code and your output and add them to your report.