Assessed Coursework

Course Name	Computational Social Intelligence			
Coursework Number	1 (first part)			
Deadline	**Time:**	17.00	**Date:**	Dec. 2ⁿᵈ, 2022
% Contribution to final course mark	20%			
Solo or Group ✓	Solo	X	Group	
Anticipated Hours	10 hours			
Submission Instructions	The coursework must be submitted via the Moodle page.			
Please Note: This Coursework cannot be Re-Assessed				

Code of Assessment Rules for Coursework Submission

Deadlines for the submission of coursework which is to be formally assessed will be published in course documentation, and work which is submitted later than the deadline will be subject to penalty as set out below.

The primary grade and secondary band awarded for coursework which is submitted after the published deadline will be calculated as follows:

(i) in respect of work submitted not more than five working days after the deadline
   a. the work will be assessed in the usual way;
   b. the primary grade and secondary band so determined will then be reduced by two secondary bands for each working day (or part of a working day) the work was submitted late.
(ii) work submitted more than five working days after the deadline will be awarded Grade H.

Penalties for late submission of coursework will not be imposed if good cause is established for the late submission. You should submit documents supporting good cause via MyCampus.

Penalty for non-adherence to Submission Instructions is 2 bands

You must complete an "Own Work" form via **https://studentltc.dcs.gla.ac.uk/** for all coursework

1.Introduction

This is the <u>first part</u> of the Assessed Exercise, the <u>second part</u> will be handed out on November 16th, 2022. The marking will be done over both parts.

The deadline for submission is December 2nd, 2022 at 17.00.

2.The Data

The data (file "laughter-corpus.csv") is a collection of laughter events observed during 60 phone conversations between 120 unacquainted speakers. For every laughter event, the following information is available:

- Gender of the person that laughs: "Male" or "Female";
- Role of the person that laughs: "Caller" or "Receiver";
- Duration of the laughter event in seconds.

Out of 120 speakers, 57 are male and 63 are female. In terms of roles, 60 speakers are callers, and 60 receivers.

3.The Assessed Exercise

Use appropriate statistical tests to answer the following questions:

- Is the number of laughter events higher for women than for men?
- Is the number of laughter events higher for callers than for receivers?
- Are laughter events longer for women?
- Are laughter events longer for callers?

For each of the above questions you are expected to perform the following tasks:

- To formulate a clear research hypothesis and, correspondingly, a suitable null hypothesis;
- To select an appropriate statistical test among those that have been presented during the course;
- To explain whether you reject the null hypothesis and, if yes, what is the confidence level.
- To explain whether you use a two-tailed or a one-tailed test and why.

You are free to use any programming language and you are not allowed to use libraries that perform statistical tests. You have to show that you know how to calculate the statistic you use for the test (Chi Square or Student's t).

4.The report

The report must include a general description of the problem and, for each of the research questions in Section 3, the following elements:

- Formulation of research hypothesis and corresponding null hypothesis;
- Description of the data, e.g., number of laughter occurrences for female and male subjects, average and variance of laughter length for female and male subjects, etc.;
- Description of the approach, e.g., which test? What are the parameters (degrees of freedom, expectations, etc.) and what is the motivation behind every choice (why a certain test? Why a certain value of the parameters?);
- Results of the hypothesis testing (can the null hypothesis be rejected? What is the confidence level? Etc.);
- Explanation of the results (e.g., in case the test shows that the number of laughter events is higher for female subjects to a statistically significant extent, you should mention that your conclusion is that female subjects tend to laugh more than male ones);
- Analysis software you have written (the code must be added in appendix);

The report should not include more than one page per each of the questions to be addressed (see Section 3).

5.Marking Scheme

The Assessed Exercise (including both first and second part) accounts for 20% of the final mark. The weight across the different components is as follows:

- Analysis of the data: 60%;
- Editorial quality: 20%;
- Quality of the code: 20%.

The two parts of the Assessed Exercise have the same weight (each accounting for 10% of the final mark).

6.Submission Instructions

You are expected to submit only the report and pdf is the recommended format. However, you can you use any other format if you are unable to generate a pdf file (the only format that is not accepted is Jupyter Notebook). The submission must be performed via the Moodle Page of the course (see Link "*Assessed Exercise Part 1*" available at the bottom of the Moodle page).