Group Report

The purpose of this report is to reflect on the project and the team's relationship. It will consist of four parts: reflections on group work for literate programming in the notebooks, reflections on group work for other aspects, reflections on effectiveness of planning and some key conclusions about impact of Human-in-the-loops aspects.

Reflections on group work for the literate programming in the notebooks

To achieve literate programming in the notebooks, the main problem we encountered was that while completing individual notebooks we had duplicate codes and the level of analysis was inconsistent between team members. Hence we went through the process of modularising the code by creating functions and reusing them when required. This step effectively cleaned and shortened our product notebook and made the process of debugging easier. Furthermore it allowed everyone to edit each other's work and learn new information and different methods of coding. Link:
https://github.sydney.edu.au/swan9801/R13B-Group4-COVID/issues/2#issuecomment-9089
Another effective step we performed was conducting code reviews to provide feedback about other members' code so that improvements were made accordingly. During this process of mutual performance monitoring, the Big Five quality played a key role in identifying the mistakes other members made, simultaneously facilitating self-corrections in our own notebooks. Therefore this allowed the team to improve the robustness and reproducibility of our analysis.
Link:
https://github.sydney.edu.au/swan9801/R13B-Group4-COVID/issues/2#issuecomment-9304
Explanations of code chunks were also included in each part of the analysis, before, during and after many cells with the purpose to ensure every part of the analysis was characterised and understood by each team member.
Before we put all the content we needed into the product notebook, we assigned two people to conduct pair programming (Cynthia Mather and Sherry Wang) by reviewing all the process notebooks thoroughly, to confirm the assessment checklist of the literate programming was satisfied and made adjustments when required. The pair also checked the texts in all parts of the notebooks to ensure it was easy to understand, follow and corrected any grammar or

spelling mistakes. These finalising steps were helpful to move the process notebooks from the done-and-ready-to-check stage to the done-and-checked stage to create our product notebook.

Reflections on group work other aspects

Our team was able to utilise intellectual tools, to perform team leadership effectively by trusting one another, communicating constantly whether it was on GitHub or our messenger group chat. Different roles were assigned to each member and the manager (Cynthia) and tracker (Sherry) coordinated tasks and organised activities across the members evidenced in issues lodged in the GitHub repository: https://github.sydney.edu.au/swan9801/R13B-Group4-COVID/issues.

With mutual performance monitoring in mind, the team identified mistakes and lapses in other members' actions during the weekly meetings and we provided regular feedback to facilitate self-correction. These are indicated by the regular meeting minutes and constant discussions that are tracked on the issues. At the same time, our manager created a positive atmosphere in our group by motivating and engaging the members.

For the presentation, every member actively took the responsibility for a different section and was able to complete their section within a given timeframe. This is based on the well-established mutual trusts in the group with a shared belief that everyone will perform their tasks. The link to the slides of the presentation is: https://docs.google.com/presentation/d/1AfGKA0UsIjpVzlh-u50XdqZ98yUYiAZYsEz8TOVF2JA/edit#slide=id.g6db149f385_0_27564.

When we started practising the presentation we faced issues in the distribution of workloads. Cynthia took charge of the uncertainty section which consisted of too many slides and therefore after discussing the work load and reaching a consent, some slides were given to Johnson to achieve balance and this effectively demonstrated the team's backup behaviour that made us a successful team. Another major issue we encountered was exceeding the time limit, but as this was something we also encountered in the first assignment, the team used similar steps towards cutting down and presenting KEY information as well as decluttering information on slides. These steps include: every team member saying their section of the presentation and the team listening and critiquing at the end.

Reflection on the effectiveness of your planning

As a group, we held weekly meetings every Saturday with meeting minutes recorded on GitHub on top of the meetings during the tutorials on Thursdays that usually went overtime. Meeting twice a week and sometimes three times allowed us to plan for what needed to be done before the following meeting so that each checkpoint was completed on time and so we wouldn't fall behind. During the meetings, we generally started by sharing the results we were working on leading up to the meeting and these were generally individual analyses that we conducted. Next we moved on to giving feedback to each other and if anyone had problems with codes we assisted each other. Finally we sumarised some ideas that we were all mutually satisfied with and continued to process to the next tasks. This method of communicating the results helped the team grow and learn new things as there was a lot to do and workloads were shifted around.

Apart from holding group meetings, we made effective use of the software tools including Google Doc, Google Sheets, GitHub and Issues, this allowed us to easily communicate and work as a team. We created a Google Doc for recording some bullet points during the meeting and after it ends, the tracker (Sherry) would upload a summary to the Issue of meeting minutes. We also made a google sheet as a dashboard which helps us plan for future tasks and set deadlines.
Links to the meeting minutes:
https://github.sydney.edu.au/swan9801/R13B-Group4-COVID/issues/2
Tasks for each member were also contained in the Issues. Once the tracker (Sherry) uploaded the summary for meeting minutes, our manager (Cynthia) would assign the tasks among the members and if anyone was unsure about it, they could leave a comment under the issue which assisted in following a closed-loop communication, on of the Big 5's by clarifying that tasks were assigned, received and understood by each member.
The link to GitHub Issues:https://github.sydney.edu.au/swan9801/R13B-Group4-COVID/issues

Key conclusions about the impact of the human-in-the-loop aspects

For the human-in-loop data analytics, there are three main elements involved which are people, data and tools and it guided us during the whole project.

When creating a high-quality product notebook, the Human-in-the-loop aspects firstly influenced our data collection process. In order to make our data trustworthy, we took them directly from some authoritative institutions GitHub such as the European Center for Disease Prevention and Control (ECDC) and Johns Hopkins site. It was essential to use the data since the repositories are public open data and it includes variables such as total death cases, total confirmed cases, which is sufficient to answer the driving question: ‘How deadly is COVID-19? And presenting the uncertainties in a meaningful way’. However what was critical was preserving the immutability of the data. While our two main datasets were directly sourced from the github repositories of the data sources, the data models had to be downloaded for their source and uploaded into our github repository. This is an example of how humans contribute to the analysis aspect such that it was essential that we followed ethical guidelines in not changing the data itself.

The main results reported in our presentation were effective in addressing the Human-in-the-loop issues such as Truth Decay. When reporting the death rate for COVID-19 the media often present misleading and untrustworthy information ignoring errors and uncertainties. Our main findings in visualising uncertainties have explored better ways to report factual information and also presenting them in a more interpretable and useful manner. Additionally, the uncertainties were also addressed by utilising one significant figure in our reporting to ensure the precision of the data.