

MAS116/117 Presentation Lecture 10: Group Project 1

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1 Reflections on the mini-project

The mini-project

Hopefully, following the mini-project you are more confident with your Python skills and writing-up skills. Even if you didn't do as well as you hoped, you are likely to have come a long way this semester. Do take on board the feedback when it is released. Your mark will be on the paper copy which will be outside F10. You will have the chance to appeal your mark, but very few appeals get upheld, i.e. typically we agree with the markers.

Peer assessment exercise

Hopefully you learned from the peer assessment exercise. You got the opportunity to see how others approached the same task. You have a sense of how things are marked. Hopefully you saw things you liked and will try to emulate, and things you didn't like which you will avoid.

2 Working in groups

Aristotle (384BC–322BC)

The whole is not the same as the sum of its parts.

Metaphysica

Group working: the benefits

Working in groups allows people to discuss and share ideas. Often, opinions can develop in ways that they wouldn't otherwise. Also, group members can learn from each other, and this can lead to better overall results.

Group working: the hazards

Unfortunately, group working can be difficult at times.

Problems can include

- time consuming or pointless discussion;
- conflicts or disagreements;
- clashes of personalities or styles;
- offence being taken, possibly where none was intended.

Often, problems can be traced back to a communication breakdown.

Group working: some tips

Good communication is key to a group working successfully.

Here are some tips.

- Engage constructively with the arguments others are making.
- Ask questions, seek clarification and encourage people to follow their ideas unless you think they're a big mistake.
- Don't express an opinion as a fact. (Instead, start with 'In my opinion...' or 'I think...'.)
- Criticise the idea, not the person. ('I'm not sure I agree with that' rather than 'You're wrong!')
- Make sure all decisions are communicated to everyone in the group, including those who are absent from a meeting.

Further tips

- Set clear expectations as a group of what is required from each member.
- Don't leave the responsibility of making decisions on the project entirely to others. ("I did everything they asked me to do!")
- Be patient! Everybody's brain is different, and you will find some people easier to communicate with than others.

3 Mathematical investigation

The process of investigation

Try to understand a problem. Model it mathematically.

1. Write code.
2. Run code.
3. Look for patterns in the output.
4. Make guesses for what is going on.
5. Do one the following.
 - Prove your guesses mathematically.
 - Test your guesses by repeating the above.

Investigation is often an iterative process.

4 Writing up

Further tips

- Be clear who you are writing for.
- Have clear structure.
- Have a good clear introduction saying what you were supposed to be doing and what you actually did.
- Be coherent and consistent. (Notation should be the same everywhere.)
- Give your results and what you conclude.

5 Feedback: TellUS

- <https://go.blueja.io/HRc8rkuHYE0njIUrbqqLvw>

6 Group Project 1

Overview

- Investigate configurations on chess boards.
- Write up your findings as a website.
- Individual submission due Thursday Week 13.(It is not marked but feeds into the group submission).
- Computer sessions Monday and Wednesday of Week 15.
- Group submission due Thursday Week 15.

Remember: You must participate satisfactorily in all group projects to pass the module.

7 Later today

Computer labs

In the Week 11 computer lab we will use Excel in as interesting a way as possible to investigate mathematical problems.