

# Mathematics Report

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This is the report of what I have learned, and how I feel after the first quarter working in the research group of Dr. Martin J. Mohlenkamp.

## What I have learned

After ten weeks of working in the research group, I have learned presentation skills, have developed computer programming with Python, and have understand briefly about Quantum mechanics.

Firstly, during the time participating in the group, I have come to realize how important presentation skill is. I understand that presentation is not all about the content, but the way the content across audience, which is based on many factors from the type of slide was chose, the way each slide move and how the presenter link all the slide to convey the mainstream content. Sitting, listening and then talking to the presenter give me a better understanding of how to be a good presenter.

The other remarkable thing that I have learned is about Python. Before joining the group, I have heard about Python; however I have never had a chance to study it seriously. By doing assignment of writing a program to calculate the determinant of matrix by Python, I have a chance to read about Python carefully. At first, I had the feeling that Python is a strange language, and in term of convenience, it is nothing comparing with the other language such as Visual Basic and especially MATLAB. However, after finished the assignment, I realized that with SciPy, Python is as strong as MATLAB. And with its very-easy-to understand structure, Python has become one of my favorite language.

Last but not least, during the time working with other member in groups, I had an opportunity to study about Quantum Mechanic. Although, it is my first time to study and Quantum Mechanic is a major branch of Physics, I found the field is very attractive.

## How I feel

Despite the fact there are many aspects in the research confuse me, I find every weekly meeting enjoyable. It is not only because of what I have learned out of

the meeting, but also the way my friend, who is the presenter, intrigue me by the content they present, and, somehow, by how they respond to the question being asked. To me, sitting and listening to the presentation creates a need to read more about the content (in the presentation).

Working in the group also helpful in the sense that it varies my activity beside courseworks and teaching. If in classroom, both the class I teach and class I take, I have a picture of what is going on and what will be happen, in the meeting of the research group, in many parts, I do not understand, and sometime I find hard to figure what is going next. This difference always intrigue me to study more and more so that I can follow the group's rhythm. Sometime, It also make me feel relax after a routine teaching and coursework.

My plan to continue this study rhythm after when the quarter finish is to focus on getting myself familiar with Python, and working on the new assignment about programming a function to symbolically calculate determinant of matrix. At the same time, I will trying to build up my knowledge and technique about differential equation so that I involve more deeply in the work of the group.