Group 16 Self-Reflection

Aidil Fitri's Self Reflection

For the Group 16 Assignment Experiment I: Electrical Measurement, I, AIDILFITRI BIN SAWALLUDIN, A19EE0313, have contributed a major part in the development of the Group 16 progress of preparing the report. Since the announcement of the assignment by our SEEE 2133 Electronic Instrumentation & Measurement Section 10 class lecturer, Tuan Haji Mohd Shukri bin Abdul Manaf, I have instilled myself with the determination on finishing the assignment as good as possible. As required by the assignment, I have done the theoretical calculation for the question and discussed with my colleagues about its solution. Next, I designed the circuit in the Tinkercad, an online software, and then simulate the circuit to find the voltage and current for each resistors of the circuit. Afterwards, we shared our findings and later found that the results from both theoretical calculation and the simulation are quite similar but still not the same, in which we discussed about it and later found that the slight difference occurred because of the factor of accuracy and precision. In addition, we also discussed that the real measurement would result the almost same data but still difference occurred as due to the presences of internal resistance in the multimeter and tolerance in the components. Lastly, we compiled all of our findings and discussion in our report in IEEE format as required by our lecturer, a format which quite new for me but interesting to learn and apply it. In conclusion, we are capable of solving the assignment questions and producing the report as the result of good teamwork that we have as a group. Lastly, I would like to thank my colleagues which are Amirul Irfan & Amir Zafran for their contribution in our Group 16 assignment development and to our lecturer Tuan Haji Mohd Shukri bin Abdul Manaf for giving us the opportunity of this valuable experience.

Amirul Irfan's Self Reflection

For this assignment, we were given the task to do an experiment on finding the voltage and current in a given circuit. We need to use both circuit analysis method (theoritical method) and simulation using Tinkercad. In the group I was assigned on the role to do the manual calculation as well as doing the final check on the report for this experiment. The biggest knowledge that I gain through this assignment is on how to use the Tinkercad simulation. The program was easy to use and is very user friendly. I learned on how to use the different components to build a circuit and instruments to measure the desired parameters. The results from my theoretical calculation and the simulation were very close with very minor difference, which from what I have learned through this experiment was caused by the internal resistance in the multimeter and tolerance of components in the circuit. Through this assignment I also learned on how to make a report based on the Institute of Electrical and Electronics Engineers (IEE) paper format.

Amir Zafran's Self Reflection

The purpose of this assignment is to measure the voltage, V and current, I of resistors in a specific circuit. Our group was tasked to analyse a circuit on Question 14, but the value of resistance, R of the resistors is modified to double the value. We were required to use two methods in obtaining both of the variables of the resistor, which are through manual calculation and through a virtual simulation program, Tinkercad on a computer. We were also needed to prepare a video on the simulation and also prepare a 3 page report about the experiment. My role and job in this group is to help in preparing the report. I learned a lot of things from this assignment. One of them is I managed to grasp on using the Tinkercad simulation program. I got to learn how to design the circuit in the virtual board on the program and also learn how to simulate the circuit on the computer. I have used other simulation programs before, and by far this program is one of the easiest and beginner-friendly programs. The only downside is the program required a good internet connection to properly use it and some of the advanced components are not available. I also learned a new format of report which is the IEEE format. At the end of the experiment, after obtaining both values of voltage and current from both methods, we discovered that our data is identical to each other. Since the multimeter on simulation is an ideal multimeter, the measured data is accurate thus both of the data are the same. However, if we do the experiment in real life, we suspect that the measured data will have a slight difference, This is because the measured data is affected by the internal resistance of the multimeter and also the tolerance of the components of the circuit.