CHAPTER 6
CONCLUSION

From the result of Automatic Watering Leeks Farm in A Mini Greenhouse, the conclusions of this project are:

1. Yes, this device can work very well in a controlled experiment environment, proven from the experiments I have done, it can be seen that this system is quite stable, speed in increasing humidity is quite stable. It can be seen from the time of increasing moisture per 1% from Experiment 1 (The difference is only 0.1)

2. Yes, a higher temperature result in a longer time in the watering process, it can be seen that the Temperature in Experiment 4 is 25 and the Temperature in Experiment 2 is 35, on the average time the increase in moisture per 1% in Experiment 4 takes 0.3817 seconds while in Experiment 2 takes 0.3339 seconds and higher light intensity affects a longer time in the watering process, it can be seen that Lux in Experiment 1 is 600 and Lux in Experiment 2 is 320 and the average percentage increase in moisture per 1% from Experiment 1 is 0.3702 seconds while in Experiment 2 is 0.3339 seconds so it requires more watering time.

3. Yes, different soil compositions affect the length of irrigation time, it can be seen that cockpit planting media is better in absorbing water, so it does not require long irrigation and saves water expenditure.

4. With a large portion method, the risk of overwatering is high, because the pump will turn on every 5 and it can be seen in the experiment with the large portion watering method, their moisture last reading exceeds the Fuzzy Rule limit specified for soil moisture, which is 70%. But on the other hand, the Moisture increase rate per 1% in large portion watering is faster because the sensor only reads soil moisture every 5 seconds so there is not much delay.

Suggestion for researchers is to increase the number of soil moisture sensors and add more Fuzzy Rules to make it more accurate.