

## CHAPTER VI

### CONCLUSION

#### 6.1 Conclusion

This is the conclusion of the project:

1. Particle Swarm Optimization algorithm can be used for searching the root of polynomial function.
2. Parameter of the algorithm cannot be inserted randomly. It need to be adjusted so the algorithm can work well and searching the optimal solution.
3. Random number that used for calculate the updated velocity does not take too much effect for calculating the optimal solution because the algorithm can get the optimal solution even without the random number.
4. The best parameter value that can be used :

Particles amount = 1000 | Maximum Iterations= 1000 | Weigh Inertia = 0.1 | r1 and r2 = 0.1 | Learning Rates (c1 and c2) = 4

#### 6.1 Future Research

This project still need some necessary development for polynomial graph interface. The interface of polynomial graph still cannot resize automatically. The size still remain same. And for searching all of the root from polynomial function, it still need some improvement because it is become more difficult when searching for the function with bigger exponent.