**Assignment:**

1. **[10 marks] Do some research and describe 4 real world uses for Cellular Automata. Then come up with an original use on your own. Basically, you would to come up with a real life application for them on your own-not one that you have read about. Keep in mind the main properties of a CA (Cellular automata) - each cell's value/state depends on its current state and the state of its neighbours - and try to think of situations that fit this criteria that could be modeled using a CA.**
2. **[7 marks] John von Neumann was one of the first scientists to begin talking about self-replicating machines. What is a self-replicating machine? What could we use them for? What are the benefits and dangers of self-replicating machines? (Limit your answers to this question to a page or less).**