# BONUS EXERCISE PART 3:
# PRACTICAL COURSE
# MODELING, SIMULATION, OPTIMIZATION

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Complete the missing parts in the matlab files `Part3_bonus_exercise`, `computeX`, `evalJ`, `computePhi`, `computeGradients` to obtain a code for the training of a deep neural network. Test your code for the provided two-dimensional example.
Hint: implement the formulas given in `Week12_lecture`.
Hint: The network performs its task better when you increase the number of iterations. On my laptop, 1000 iterations take about 2 minutes. You can increase the number of iterations further to 10,000 to improve the performance of the network.

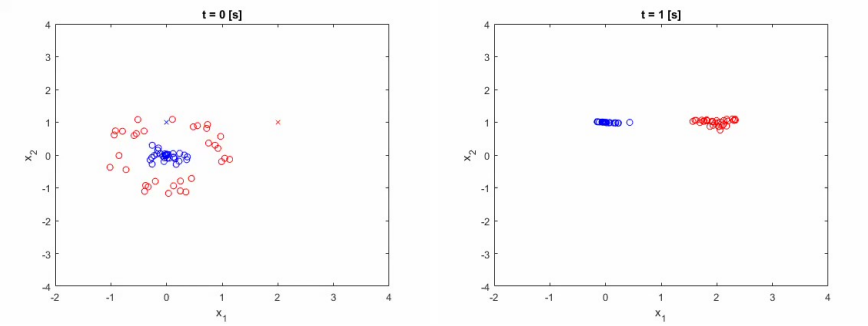


FIGURE 1. Input and output data of the trained neural network (10,000 iterations)