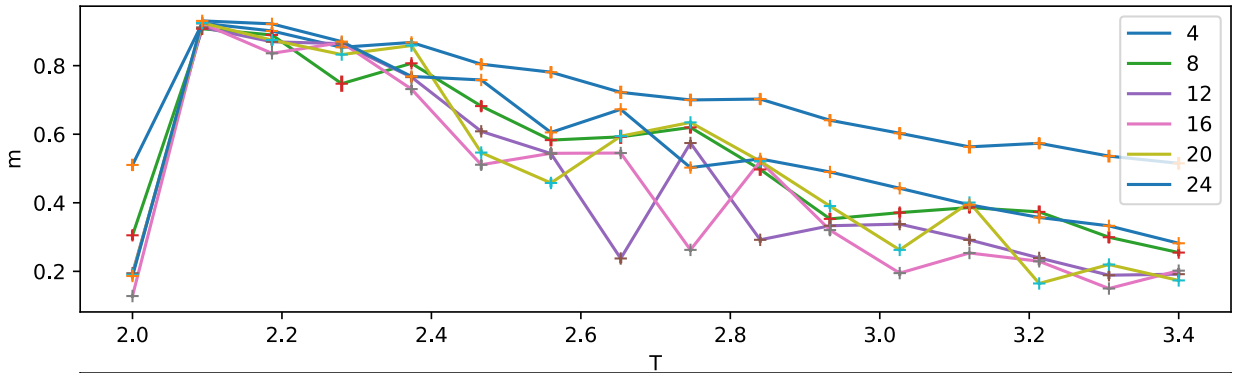
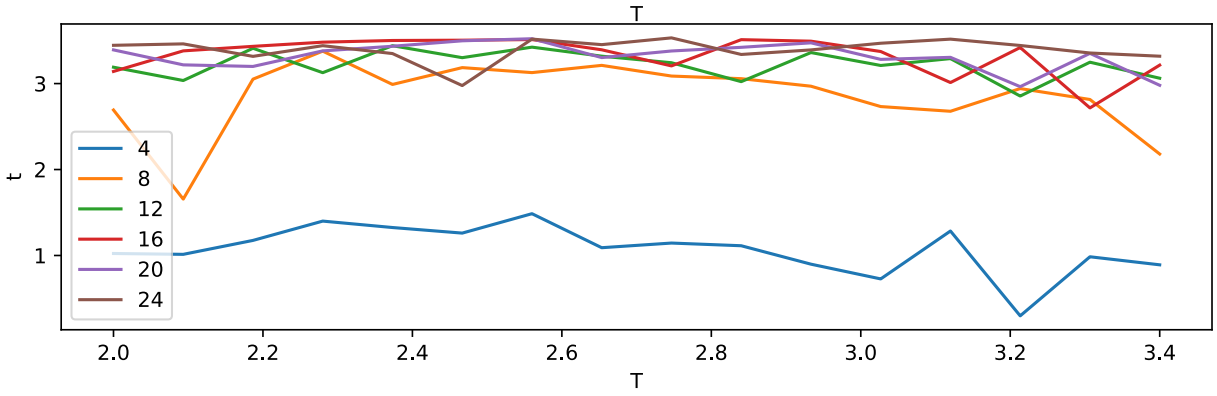
Exercise 4.2

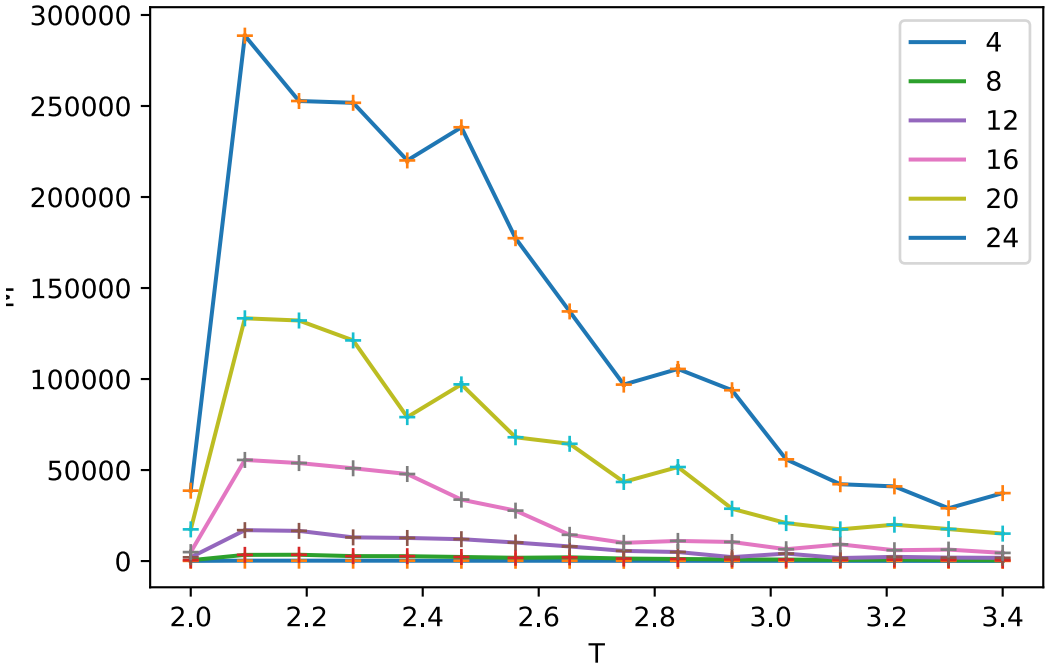


The m(T) plot displayed a maximum average order value near/at the critical temperature it is furthermore observed that the average order decreases after the critical temperature, but the rate of decrease depends on the size of the system, see the difference between a system of size 4x4 and 12x12, where the later decreases faster.



The convergence time depicted in the second plot show that it is more or less constant with a minimum depicted at the critical temperature for a system of 8x8. This is unexpected because it was assumed that all systems should have a minimal convergence time at the critical temperature but the results display that this is different for each system and, that it is more or less constant for other systems.

For the average magnetisation see the second plot, this displays for all system a peak at the critical temperature where the system is more or less stable and thus the average magnetisation per site is maximal. Like in the order plot the average magnetisation decreases after the critical temperature and the hight of the peak depends on the size of the system.


300000
250000
200000
150000
100000
50000
0
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
T
4
8
12
16
20
24