Home exercise #4

A random walker is traveling in a 2D lattice. Show that the end-to-end distance R obeys the following relation.

$$\sqrt{< R^2(N) >} \propto N^{\frac{1}{2}}$$

N is the length of the walk.
You should not bother about the periodic boundary condition but take a large lattice instead to avoid meeting the boundaries. One possible choice is to start from the center of the lattice and spread out.
Take many samples for averaging (<….>).

Write a small report where the code(s), the plots and a small discussion are included. Upload the code separately. Only one upload per group in studentportalen is required. Don't forget to include your names and group number in the report. The deadline is midnight of 28th February, 2019.