05 – FINAL EVALUATION

The last task brings us back to our original question that we tried to answer:

What is the maximum number of blocks you can walk so that on average you are not more than six blocks away from your starting position?

We now have all ingredients to easily answer that question. So as a last task write a script that outputs for a range of maximum blocks that are walked, the probability that one ends up no more than six blocks from it starting position. I have defined such a walk as 'short' walk and output the results in the following:

```
Walks of length  1 are with a probability of 100.00 % short.
Walks of length  2 are with a probability of 100.00 % short.
Walks of length  3 are with a probability of 100.00 % short.
Walks of length  4 are with a probability of 100.00 % short.
Walks of length  5 are with a probability of 100.00 % short.
Walks of length  6 are with a probability of 100.00 % short.
Walks of length  7 are with a probability of  96.91 % short.
Walks of length  8 are with a probability of  98.47 % short.
Walks of length  9 are with a probability of  92.57 % short.
Walks of length 10 are with a probability of  95.75 % short.
Walks of length 11 are with a probability of  87.31 % short.
Walks of length 12 are with a probability of  92.38 % short.
...
```

Also, answer the following questions:

- How do you determine that your results are stable with respect to the number of repetitions that are performed for each maximum length?
- What happens if you change the condition for a walk being short from having a distance of smaller or equal six to other numbers?
- Can you identify a pattern for even and odd numbers?

Hints:

- Provide a detailed documentation of the performed analysis and with source code answering all questions
- The source file should be called Final.py