Computational Physics Lab 10

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Q1

The green box shows the boundary of the box so its easier to see that its not passing the boundary.

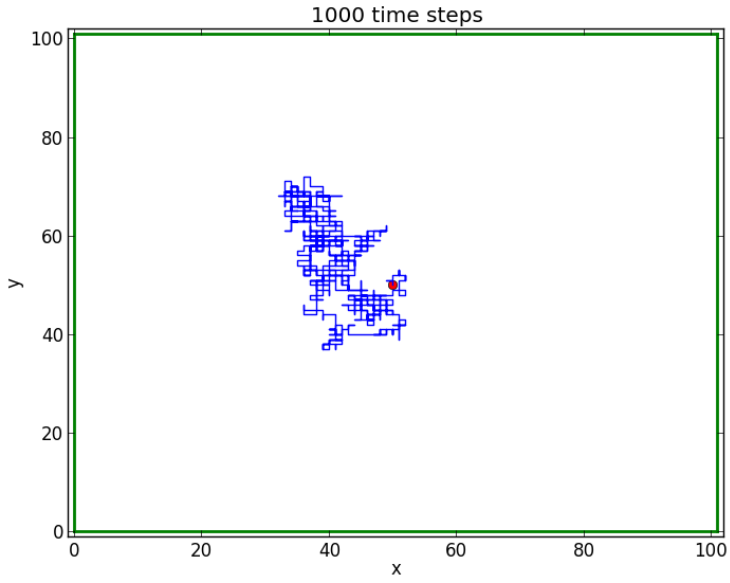

Figure 1:

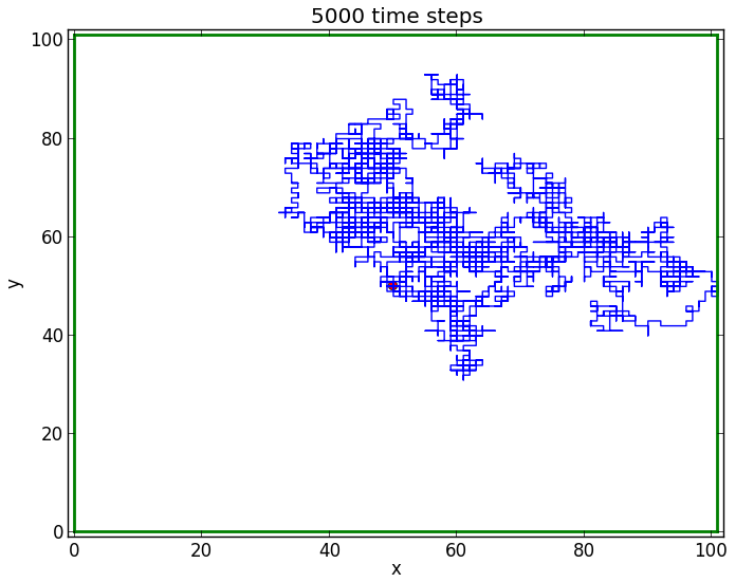

Figure 2:

Q3

Q4

The integral value is 2.533376 $\pm$ 0.0508700209361.

Q6

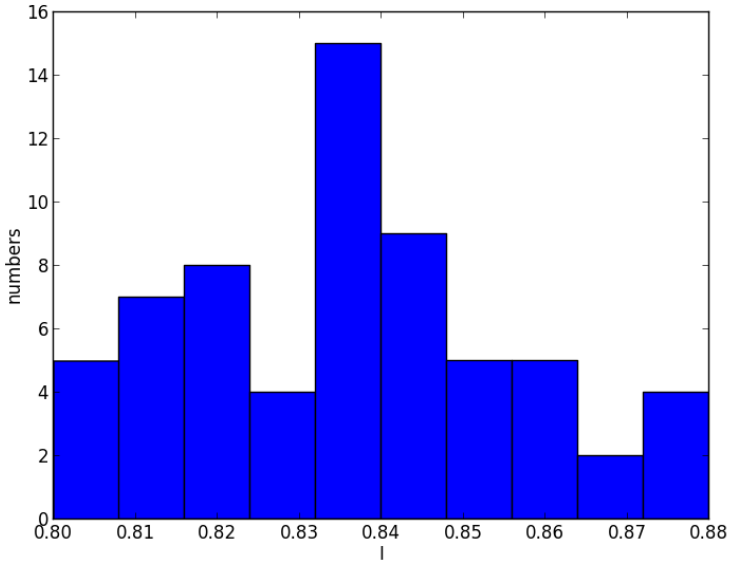

Figure 3:

Q7

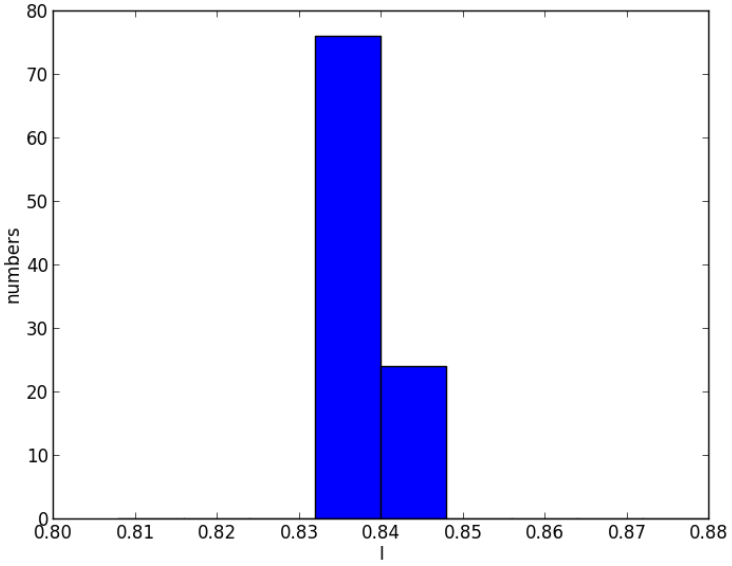

Figure 4:

As the histogram shows the method done in this question is much better than the method done in question 5 and 6, since the histogram has less spread in question 7, which means the value obtained is better.
In this question, I used the value of 2 for the $\int w$ by calculating it by hand. I also put the part in my code that calculates the integral of w using gaussian quadrature method and the value I got is 1.999 which is pretty close to the actual value, but using this value will introduce some error to the calculation of the integral.