

### Class Activity # 3

- a. Give the following values as the number of steps to the function RandomWalk (called in the jupyter notebook provided to you) and write down the values of the average distance returned by a function for each value.

1. 5
2. 50
3. 100
4. 200

- b. Does increasing the number of steps increase the distance covered from the initial point to the final point in a Random Walk? What is the relationship between the number of steps and the distance covered in each Random Walk?

Have a close look at the provided notebook and write the name of the function that is being called to find the relationship between the number of steps and the distance covered in different Random Walks. Does your findings in part b match with the findings of this function? If not, why?

- c. Write the name of the function that is implementing the Monte Carlo Simulation of the Random Walk by repeatedly calling the RandomWalk function.

- d. Call the function you have identified in part c and simulate the random walk the following number of times by fixing the number of steps as 100. What is the effect of increasing the number of simulations on the average distance returned by the function?

1. 100
2. 1000
3. 10000