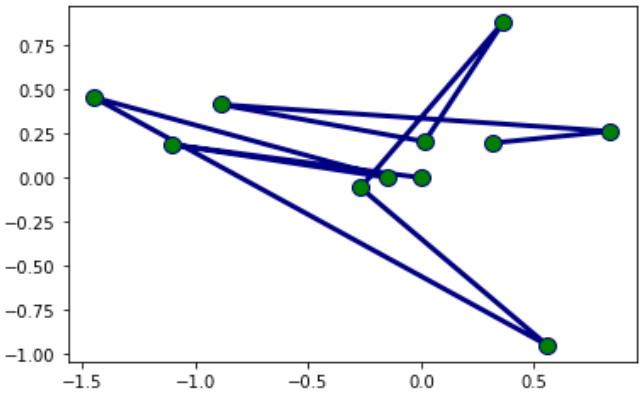
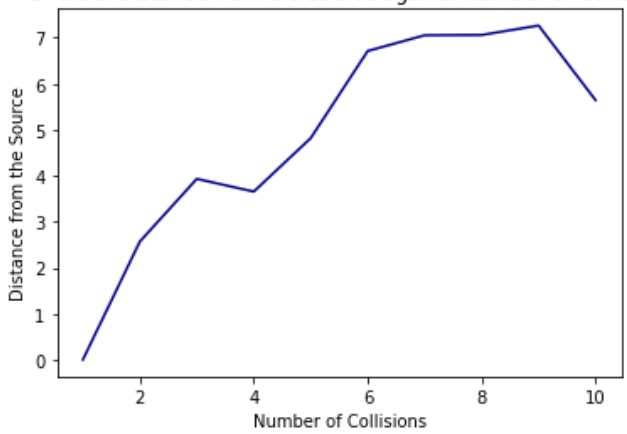
MONTE CARLO SIMULATION

1. **Simulation of Electron Motion in 2D for give number of Collisions.**

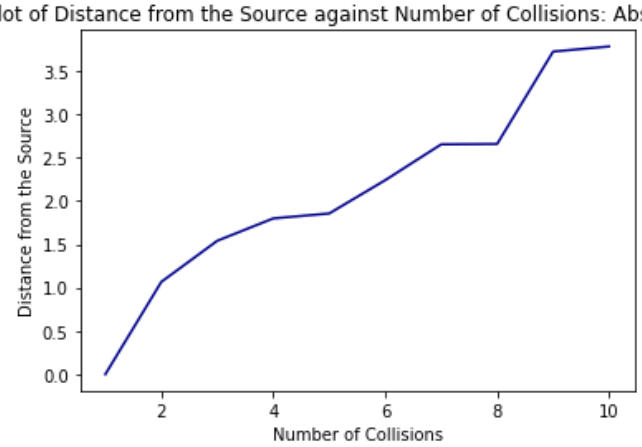
✓ **The Results for Ten (10) Collisions:**



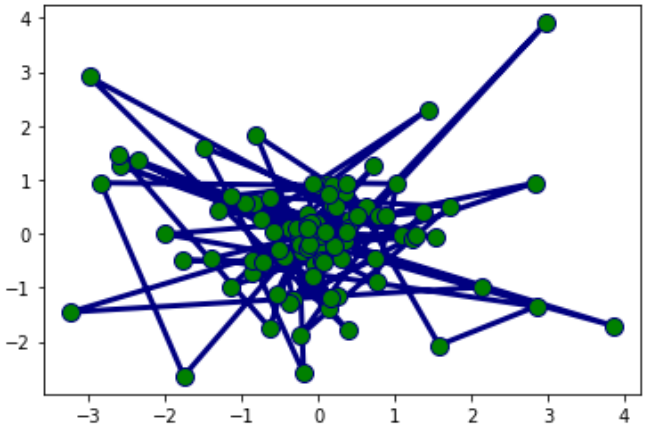
The Plot of Distance from the Source against Number of Collisions

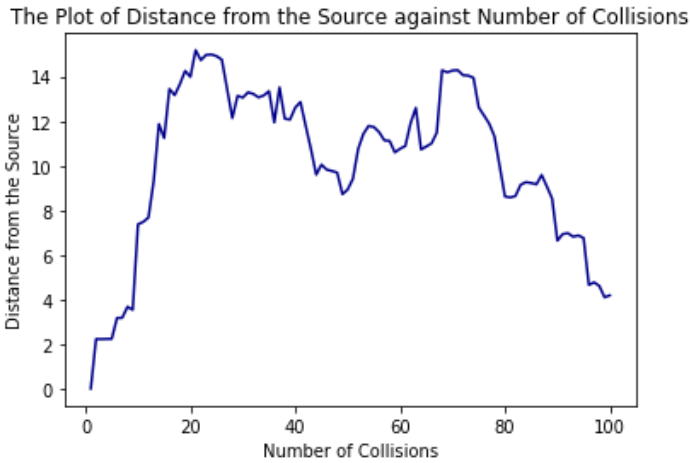


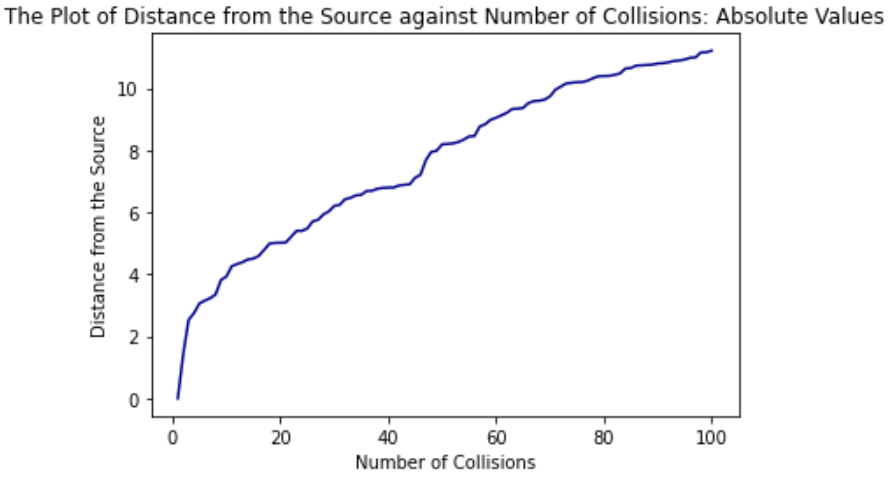
The Plot of Distance from the Source against Number of Collisions: Absolute Values



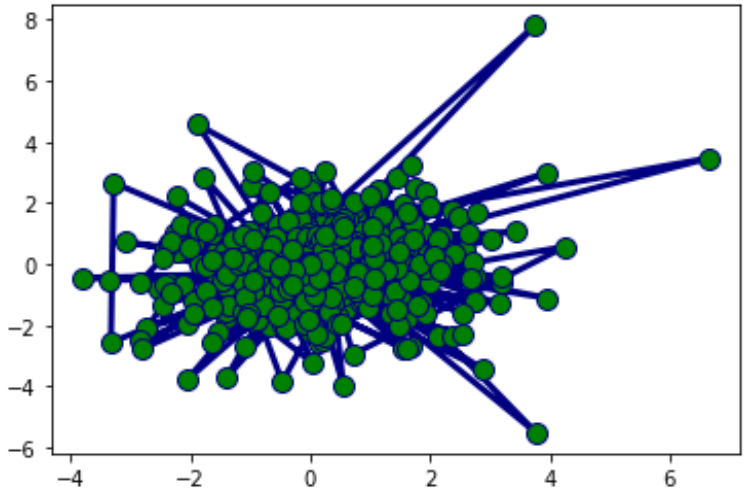
✓ The Results for Hundred (100) Collisions:



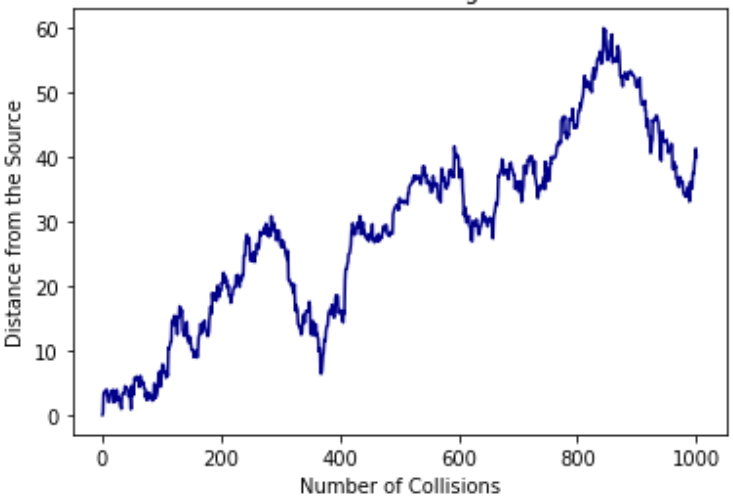




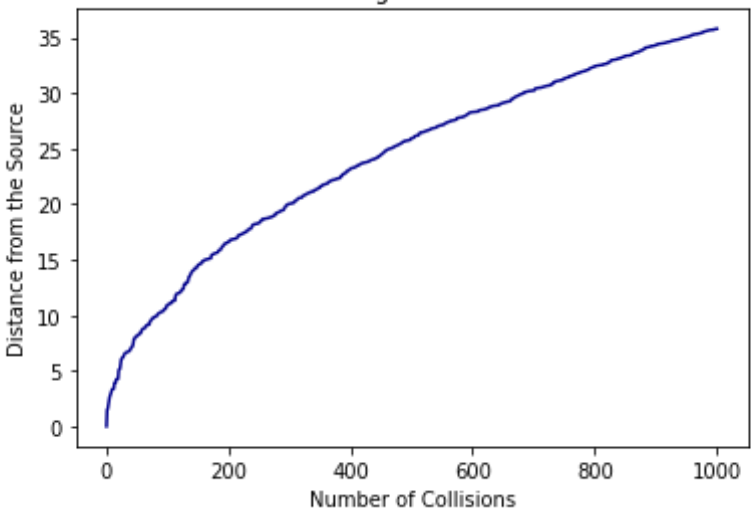
✓ The Results for One Thousand (1000) Collisions:



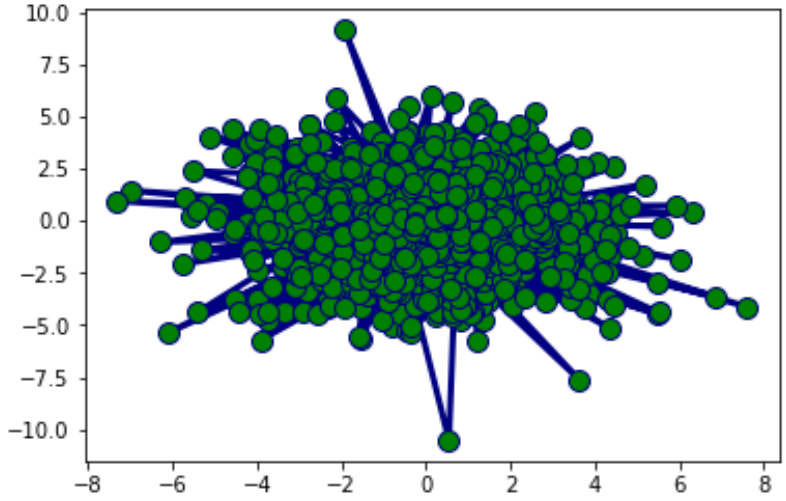
The Plot of Distance from the Source against Number of Collisions

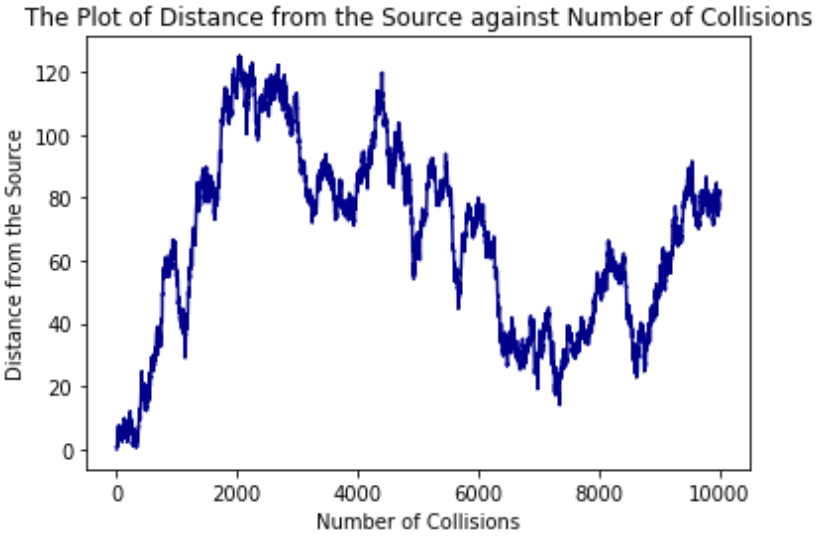


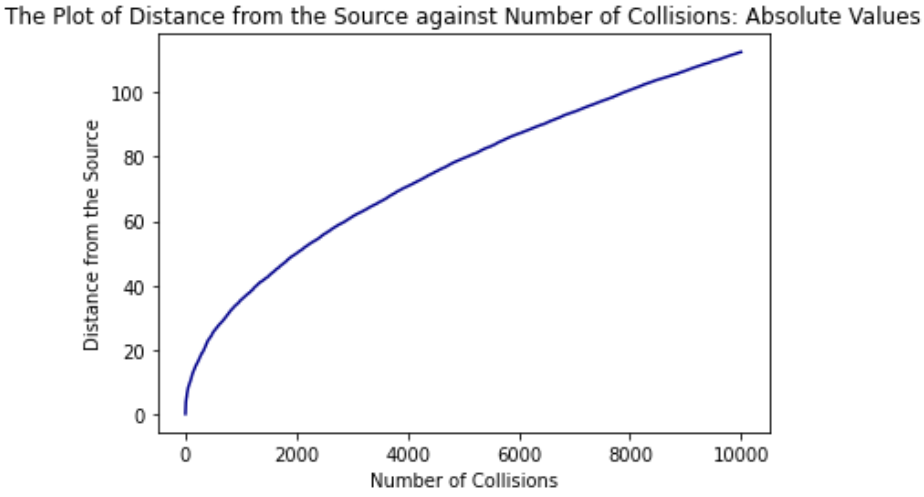
The Plot of Distance from the Source against Number of Collisions: Absolute Values



✓ The Results for Ten Thousand (10000) Collisions:

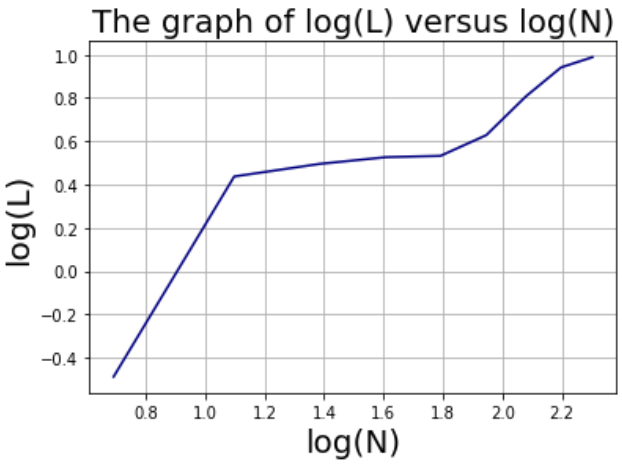




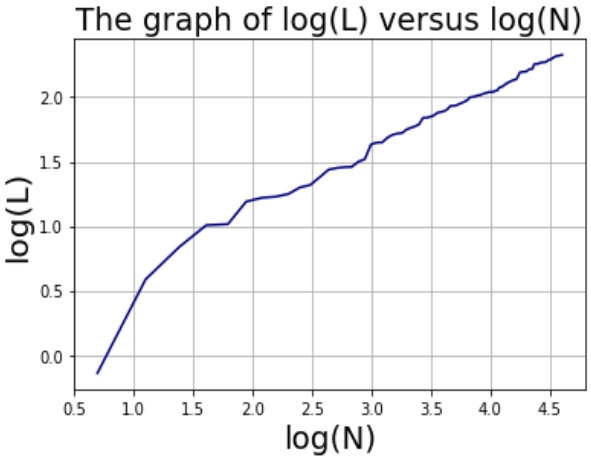


2. The Graphs of log(L) versus log(N) to determine the Slope

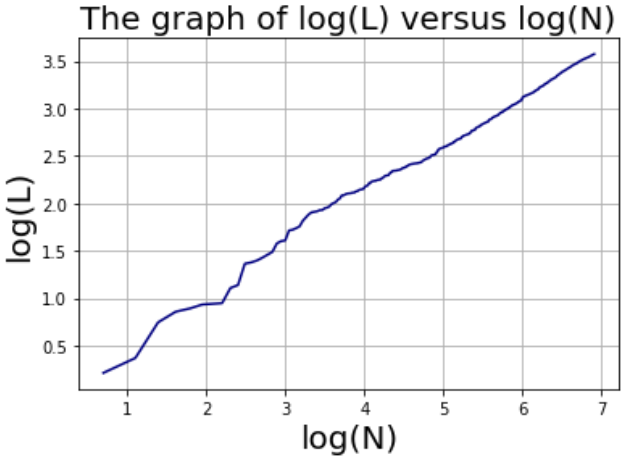
✓ The four (4) graphs below represents the values of Slope (α) for different number of Collisions [10, 100, 1000, 10000]. The value of the **Slope (α) is found to be less than one (α < 1).**



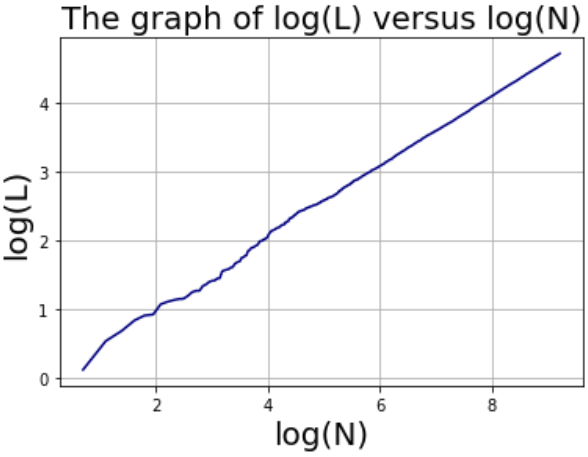
[10] The Slope (α): 0.4293058632784144



[100] The slope (α): 0.5053217670252762



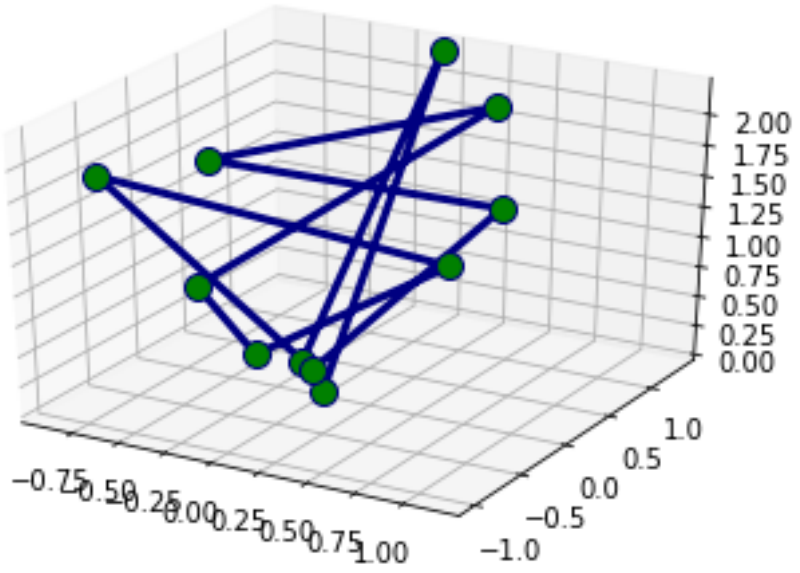
[1000] The Slope (α): 0.5174960787498081

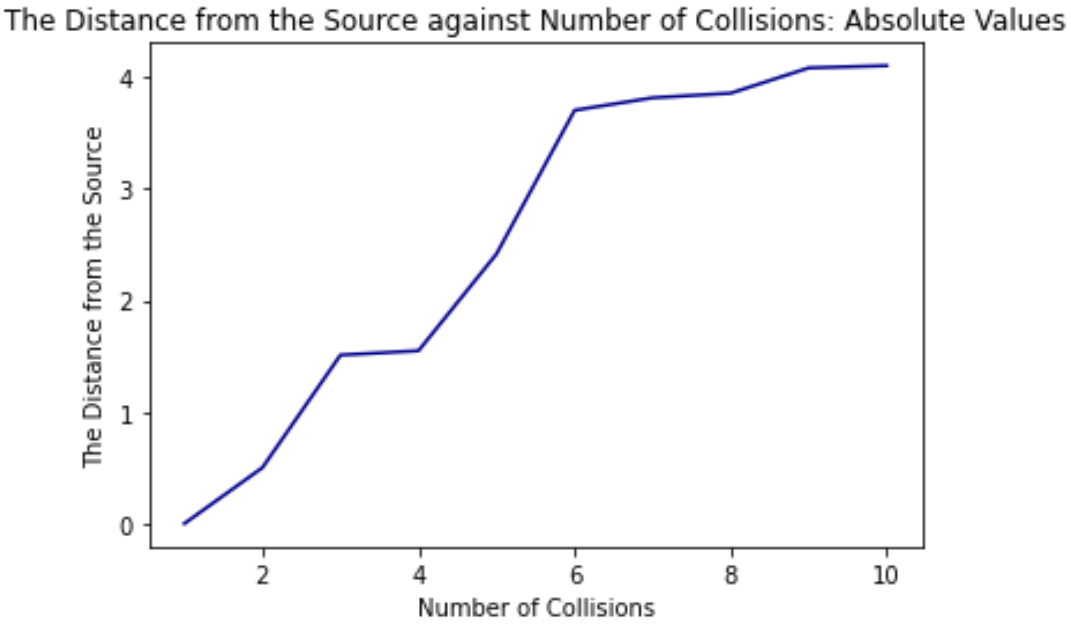


[10000] The slope (α): 0.5126077474611049

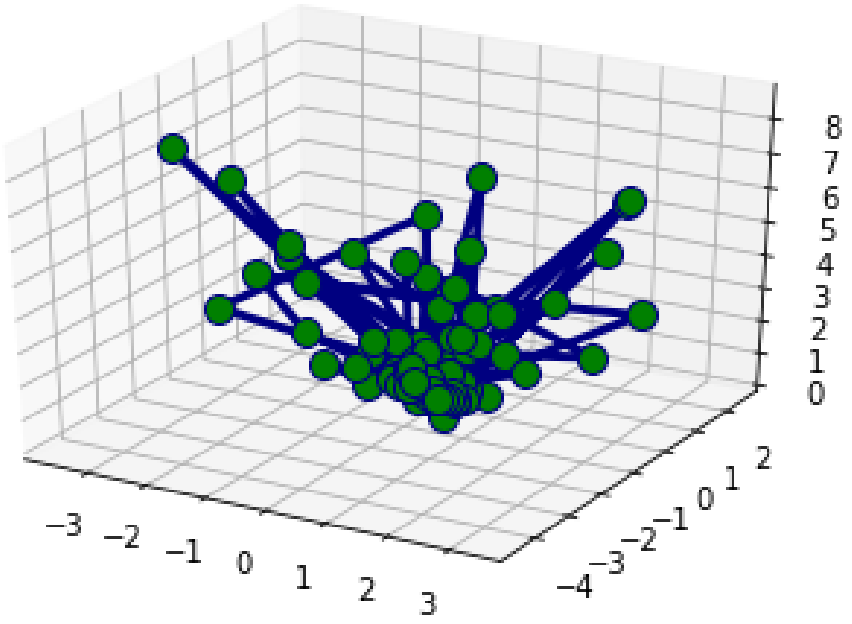
3. Simulation of Electron Motion in 3D for give number of Collisions

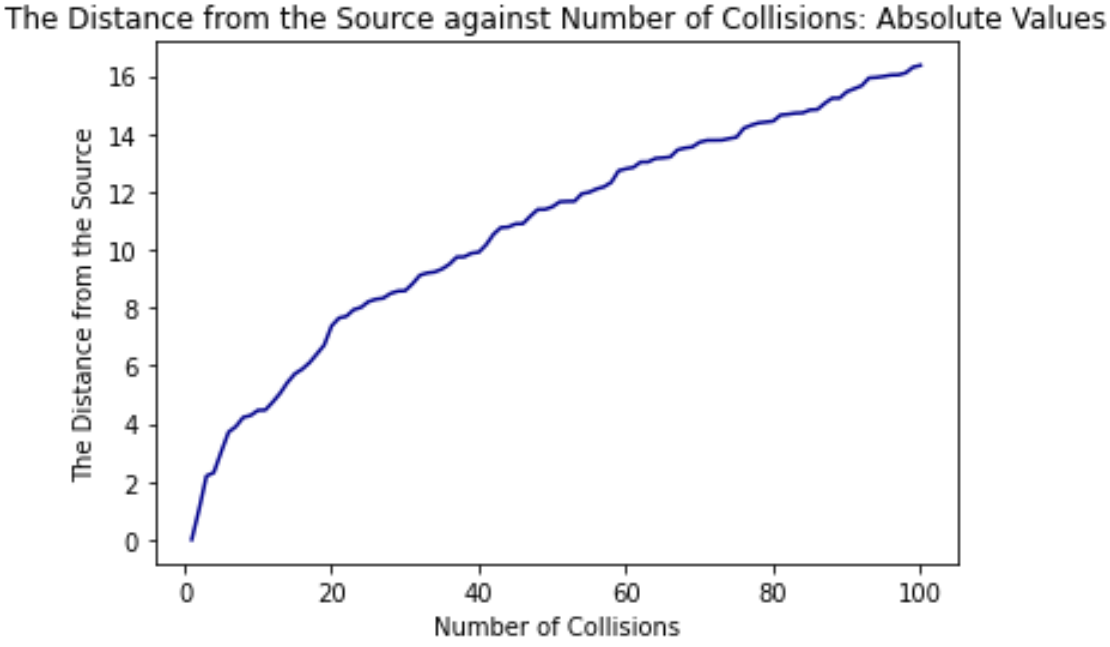
✓ **The Results for Ten (10) Collisions:**



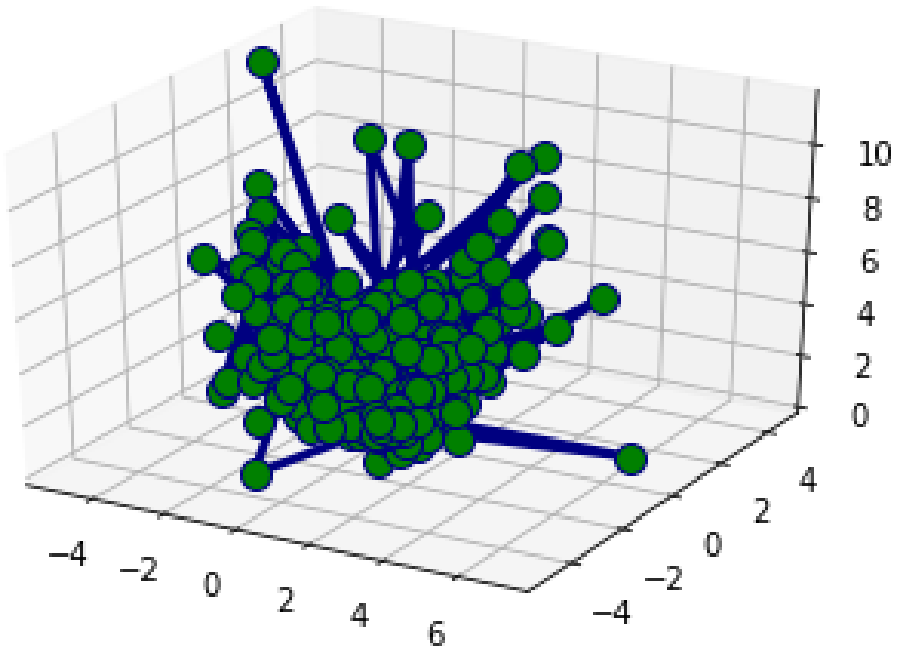


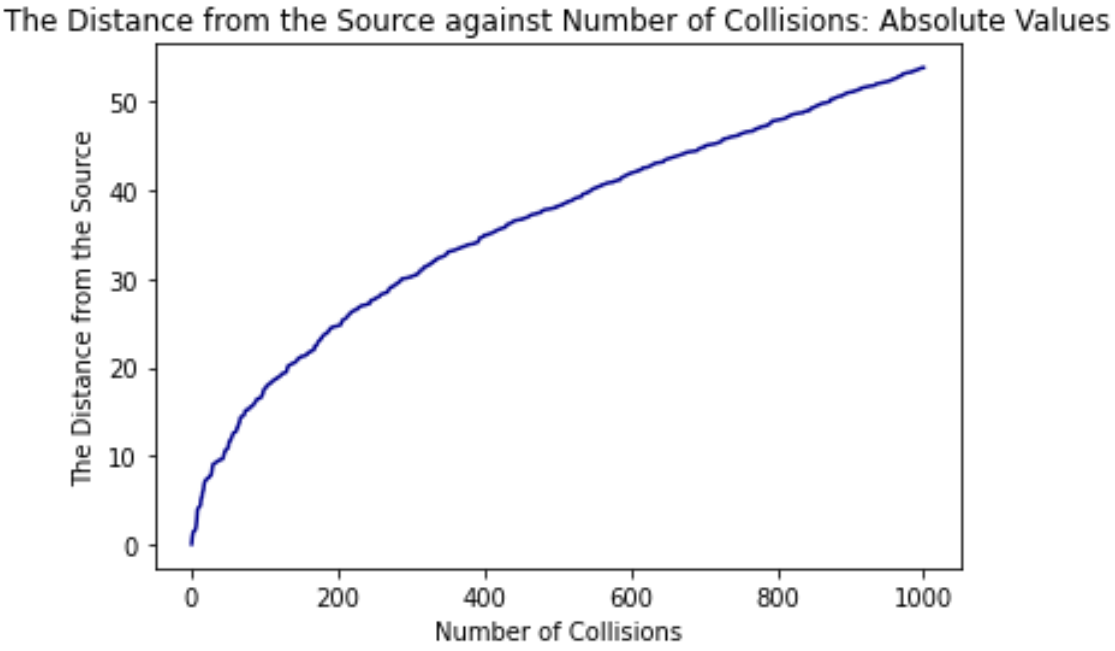
✓ The Results for Hundred (100) Collisions:



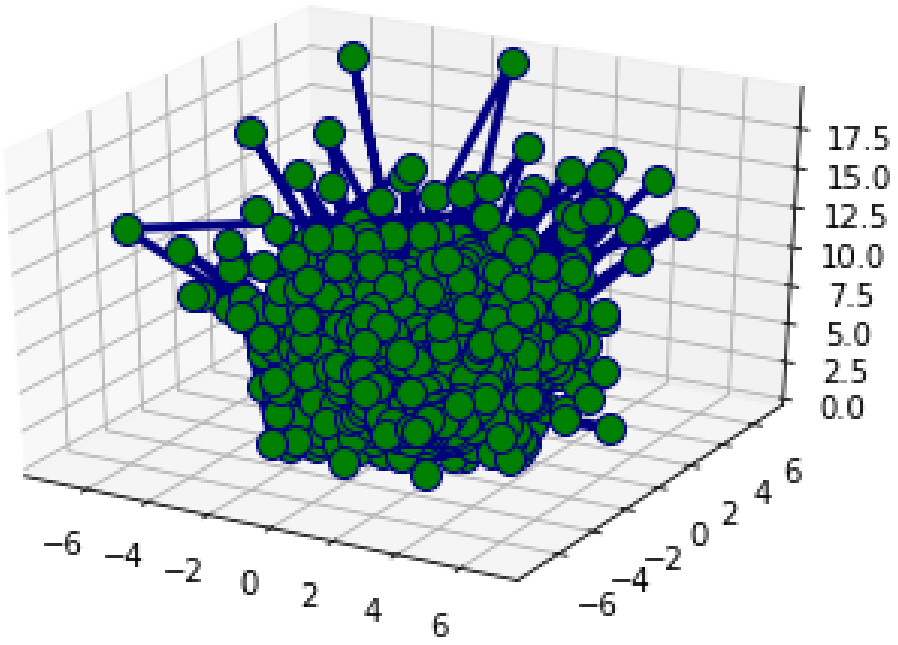


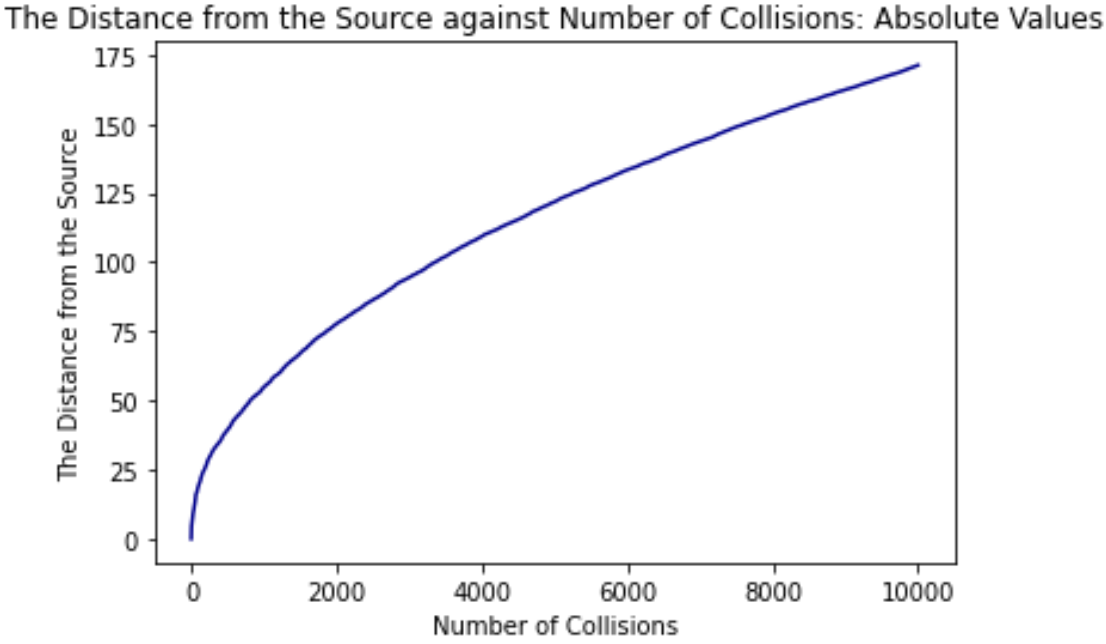
✓ **The Results for One Thousand (1000) Collisions:**





✓ **The Results for Ten Thousand (10000) Collisions:**





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The codes for these Results can be found in [My GitHub]